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TWO CASES OF AMAUROTIC IDIOCY OR TAY-SACH'S DISEASE.*

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THE two following cases of Tay-Sach's disease are interesting from several points of view, the chief being that one is, so far as I know, the first yet published out of upwards of a hundred reported, which occurred in a child not of Jewish extraction.

CASE 1.—E. W—, female, aged 13 years. Admitted May the 4th, 1897.

Family history.—Father, a sober man, killed. He belonged to the Christian Israelites in Islington. Her brother, now aged twenty-eight, and apparently healthy and sane, gives me this information, and adds: "I do not think he was of Jewish persuasion; I do not think I am Jewish." Her mother, a nervous, irritable woman, living in 1897, but has since died. Mother's mother died, aged sixty-five years, of paralytic fits, of which she had four or five. Patient is the youngest of twelve. The first ten died either at birth or were born dead, or lived only seven months; the eleventh, a boy, living.

* A paper read before the Pathological Section of the Royal Society of Medicine on January the 16th, 1912.

The patient was operated on in 1891, and an "abscess taken out of her brain"; before the operation her left eyeball "protruded like a bladder." Since then she has had necrosed bone removed from the operation wound several times. She formerly spoke quite well and without repetition. Her first fit was in 1895. Sometimes she has as many as seven in a day, and her mother thinks she has nocturnal fits as well.

On admission she was 49½ in. high, and weighed 54 lb. She had

Fig. 1.

a large cicatrix over the left eye, and a scar on the lower ramus of the jaw on the left side. Left knee was enlarged, but the movements free. She was fairly nourished, and of pleasing, lively expression. Her gait was slow and with a tendency to turn round and round. Complexion clear. Palate shallow and with thick edges. Teeth small but in good condition, separated from one another. Pupils equal; they react to light. Marked amblyopia with contraction of the fields of vision; can apparently only see objects immediately in front of her; avoids large obstacles, but ran her face up against my stethoscope when it was held near her face. Appears to see better on some days than on others. No mention of nystagmus. Knee-jerk: Left normal, right brisk. Although her gait is

clumsy she is a restless little creature. Nurses an old doll, and seems much attached to it; talks to it, hushes it, and howls when it is taken away from her.

Speech.—Utters her words rapidly, and never more than two or three in the form of a sentence. Nearly always repeats her words, *e. g.* "Can I, out there—look, look—dicky, dicky." Says "thank you" when given anything. I cannot get her to name things, and only very rarely to repeat them after me. Copied me when I said "me-ow" and "bow-wow," and when I whistled. When I say "one" and ask her to repeat after me, she says "two," and "five" when I say "three," and "seven" when I say "six." Understands what is said to her, but very difficult to fix her attention. Often noisy at night, calling out "oi—oi," and laughing. Slaps my hand and says "cry," and when I pretend to do so, she laughs. When offended exclaims "stinks—stinks."

General character.—An elfish little creature, very passionate and self-willed, but lovable and attractive; became the pet of the ward.

Sensation.—Feels light prick on face or hands; puts her hand to the part pricked and slaps me. Ejaculates "cold, cold," when she puts her hands in cold water.

Fits.—The following is a record of the fits noted during her residence in the asylum: May the 5th, 1897, at 6.20 a.m. May the 11th, 1897, at 7.45 a.m. Left arm, leg and eye twitched; left eye open, right eye shut. Whilst in the fit she tore at the place on her forehead with left hand. Fit said to have lasted ten minutes. May the 19th, 1897, 8.30 a.m.: I saw her immediately after; her pupils were widely dilated, the left the larger. Conjunctival reflexes absent. I was told that during the fit the right leg was bent up and stiff. She did not pass urine. The fit only lasted a minute. 11.30 a.m.: Had another fit, during which she lay on her back with head turned to the left, eyes to the left, left arm extended from body and showing clonic spasm. Right arm bent across the chest and still. Clonic spasm of the left leg. Frothing at the mouth. The attack lasted two minutes, and afterwards she kept tapping on the floor with her right fist; the left arm and leg were flaccid and (?) paralysed. Moved the head over to the right. Pupils widely dilated. There is mention of a fit on the morning of the 27th of this month, and one on June the 2nd at 3.30 p.m., in which the *right* side was convulsed. She had occasional fits until her death, but they are not described. She was very fretful after the attacks.

On April the 10th she fractured the shaft of the left femur. On April the 27th sore over the sacrum developed, and on April the

29th she died; temperature 103° F. Her temperature was taken twice daily from May the 18th to June the 1st, 1897, and was generally up to 99·2° F. in the evening.

Autopsy (a few hours after death).—Depression over the left orbit. Left knee bent and ankylosed. Lower end of the left femur enlarged and the bone was soft. Soft callus uniting the fracture at the junction of the middle and lower thirds.

Head: Skull thin and not dense; membrane only over a round patch, the size of a florin, in the left frontal region, just over the orbit (trephine hole).

Dura dense. Blood-vessels healthy. Circle of Willis natural. Pia arachnoid thin, somewhat œdematous, stripped easily. Excess of clear fluid beneath the dura. Marked atrophy of the convolutions, and the brain was very firm, especially the cornua Ammonis. Cortex thin and pale, ventricles not dilated. Stem firm, small; floor smooth. Cerebellum firm.

Weights: Right cerebral hemisphere 369 grm.; cerebellum 105 grm.; left cerebral hemisphere 366 grm.; stem 22 grm.; encephalon 862 grm.

Thoraæ: Adhesions of pleura on the right side at the apex and posteriorly. Right lung tough, congested throughout, and solid in the lower part; left crepitant. No enlarged glands. Heart small (135 grm.); valves healthy, cavities full of fluid blood, wall of the left ventricle thick and firm.

Abdomen: Glands of mesentery enlarged, soft. Liver (847 grm.): Mottled on section. No gall-stones. Spleen (59 grm.): Soft. Intestines healthy. Right kidney healthy (101 grm.), capsule stripped well, cortex wide; left (98 grm.), capsule stripped well, cortex narrow, colour pale.

Films of ascending frontal convolution stained in methylene blue: Betz cells fragile, *small*, and deeply stained, with large excess of pigment. Dendrites generally fractured by the pressure of making the film, they stain dull blue and show no tigroid. Cytoplasm intensely stained and very little tigroid can be made out. Apex pale, but shows no tigroid. Nucleus generally central and shows, in many cases, a paler zone around it. The very great majority of the nerve-cells of all layers are globular, and, by artificial light, appear of a pinkish colour with a blue nucleus. The apices are attenuated. The Purkinje cells are very large and globular, and the cytoplasm appears of a reddish tinge with, at one part, a small, generally oval area of a bluish tinge, with indistinct tigroid in it. The nucleus in some cells is dimly visible; the dendrites are bulky

and present varicosities; no tigroid visible in them. Only the ascending frontal convolutions and the cerebellum were examined microscopically. In view of the very exhaustive accounts published by G. Holmes, Mott and others, it is not necessary to give a detailed account of all the pathological appearances. It is enough to state that they were pathognomonic of amaurotic family idiocy or Tay-Sach's disease, and they are so distinctive that it is impossible to mistake them.

Ascending frontal: The chief points to be mentioned are: (1) That in sections stained with specific glia stains (Beneke's) there is very little appearance of glia proliferation. There was a very thin sclerosed rim to the first layer, and a few small glia cells in the white matter. (2) There was a very considerable infiltration of lymphocytes in the pia arachnoid and in the peri-adventitial spaces of the cortical vessels. (3) Cells: with Van Gieson stain the pigmented part stains very pale green and is granular; the cytoplasm around the nucleus is of a reddish colour. The nucleus is pale red and granular with a green rim, and the nucleolus also pale red with a sharply defined green rim. Over the cell is a dark green, somewhat reticulated covering in places (? Golgi nets). As in the film preparations so in sections, the small cells of the second layer are much less affected.

Case 2.—B. N—, male, aged 5 years, admitted November the 22nd, 1905. The boy's father, who has a small farm in Essex, informs me that neither he, the father, nor his wife are Jewish, nor, so far as he knows, are there any Jewish ancestors on either side. The father is an Essex man.

The patient was undeveloped, weighed only 39½ lb., unable to stand or talk; he had a large umbilical hernia and no thumbs; a very small wart on the left hand seemed to be the only representative of a thumb. His knee-jerks are exaggerated, his plantar reflexes of the flexor type. Palate wide, teeth small and peg-like. His tongue lolls out of his mouth and he slobbers. He can swallow fairly well. He makes a clicking noise with his tongue, but cannot articulate. He is helpless, but gives no more trouble than would an infant. Stated not to be an epileptic. Beyond the statement that he was quite unobservant, there is no mention made of his sight. In the condition he was in it would obviously be difficult to test. On January the 7th there is a note that during the past week he has had twitchings of face and eyes. He now lies on his back, with flaccid limbs and absence of conjunctival reflexes. There is no plantar response and no reaction to pricking in legs or arms, but when pricked on the cheek he draws up the muscles of the stimu-

lated side, and the same with the brow. He breathes regularly and slowly, occasionally whimpers, and draws up his arms and holds them suspended for a short time. Slight vertical nystagmus. Can swallow. Temperature normal. Feet cold. On January the 8th, 1906, he died.

Autopsy (four and a half hours later).—Poorly nourished ; no bed-sores. Spinal curvature in the lower dorsal region.

Dura mater very adherent to the skull, especially on the right side. Blood-vessels healthy. A firm, white subdural membrane, one eighth of an inch thick, covered the cerebrum on both sides, and lined the floor of the middle and posterior fossæ. There was a great excess of blood-stained fluid. The pia arachnoid was very thick and milky over the vertex, and stripped readily. Great excess of sub-arachnoidal fluid. The gyri were very shrunken, tough, and discoloured brown in the right superior parietal lobe. The cortex was narrow and dark coloured. The lateral ventricles were dilated and filled with fluid. Basal ganglia very tough. Pons very tough. Ependyma smooth. Cerebellum firm. Spinal cord very firm ; its central canal for a short stretch in the cervical region was dilated, and measured 3·5 mm. by 1·75 mm.

Weights : Encephalon, 993 grm. ; spinal cord, 25 grm.

Thorax : There was a pneumonic patch in the left lung, no pleural adhesions. The heart was very small (70 grm.), the mitral cusps thick and puckered ; the aorta healthy.

Abdomen : Liver (720 grm.) was tough, and on section showed pale patches. Gall-bladder full of bile, no stones. Spleen (95 grm.) tough. Kidneys pale, capsules stripped well, weighed together 120 grm.

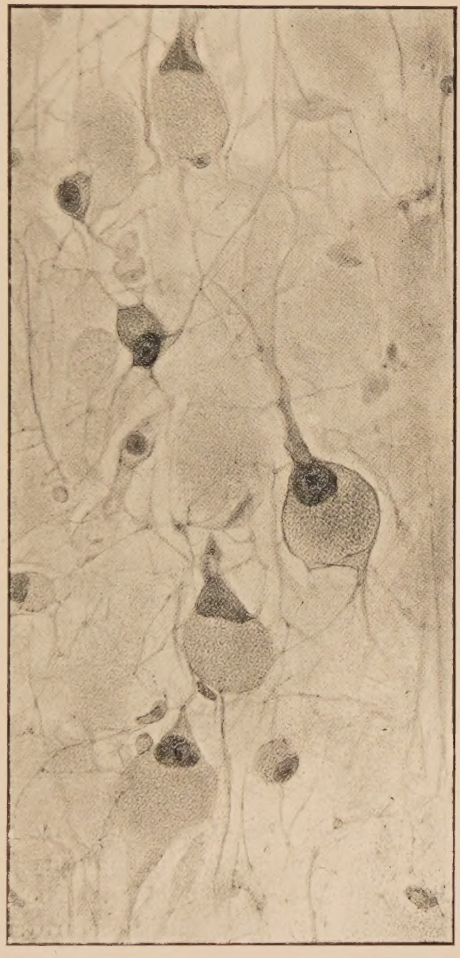
Portions of the ascending frontal convolution, the cornu ammonis, the thalamus (through the anterior tubercle) and the cerebellum were stained by my pseudo-vital method. In the ascending frontal region the striation was good ; there was no obvious paucity of nerve-cells.

The method used differentiates two kinds of nerve-cells in grey matter : (1) The ganglion or pyramidal system, which represents the orientated cells of all the layers, and (2) a series of darkly stained, generally small cells found scattered throughout all the layers. Of these two classes the ganglion cells were chiefly affected, and the Betz and third layer cells most of all. The small cells of the second layer were those least affected. Many of the darkly stained or intercalary nerve-cells appeared fairly intact, and this condition is of interest as we note a very large number of beaded, intercellular neuro-fibrils in the matrix of the grey matter, and it is

from the intercalary cells that, in the opinion of the writer, these beaded neuro-fibrils are derived. The amount of gliosis observed in the section was insignificant.

Cornu ammonis (*vide* Fig. 2) : The ganglion cells of the stratum pyramidalum are affected as deeply and as universally as those of the ascending frontal. The cells of the stratum granulosum are much less affected, apparently not more than one in ten. Many subcortical nerve-cells are seen and they are all affected in the same way as the cortical cells. In one part of the white matter adjacent to the stratum granulosum, there is a small patch of glia cells, but elsewhere none are visible.

FIG. 2.



Thalamus : In the thalamic section every one of the ganglionic nerve cells is deeply affected, probably to a greater extent even than the cortical cells.

Dr. Mott in his article* figures an hexagonally reticulated appearance of the nerve-cell, which he describes as an intra-cellular network. A similar hexagonal structure is well shown in my sections, especially in the thalamus. I am inclined to think that it represents the meshes of the Golgi net enveloping the cell body, and not an intra-cellular structure. This view is strengthened by the appearance often to be observed in the swollen dendrites more especially of the Purkinje cells, where, at the centre of the swelling, *i.e.* at the most prominent part, the meshwork is absent, whilst it is well

* 'Proc. Roy. Soc. Med.,' 1911, iv, Pathological Section, pp. 147–198.

seen over the less swollen parts, an appearance suggesting that the plane of the section has passed through the most convex portion of the dendrite, and denuded this part of its netlike envelope. No intercalary cells could be identified in this region. There was no increase of neuroglia, the periadventitial spaces contained a considerable number of lymphocytes.

Cerebellum : There was great fibroid thickening of the meninges. All the Purkinjë cells show the characteristic changes (*vide* Fig. 3),

Fig. 3.

but the final terminal dendrites are abundantly covered with *thorns*. Very many, probably the majority, of the intercalary cells of the molecular layer are affected. The neuroglial fibres of Bergmann are visible in places, and there are some glia cells seen in the white matter. The granules show no alteration.

Spinal cord (*Nissl stained sections*) : The anterior horn-cells are large and numerous. All show the change, but to a less degree than the brain-cells, *i. e.* around the nucleus is a larger region containing fairly normal tigroid. The nucleus is rather small and angular but clear. No gliosis noted.

In Weigert-Pal preparations the swollen (pigmented) part of the cell body shows coarse brown granules, and in those cells where the change is more pronounced these granules become smaller, paler and sparser, and frequently in the centre of the mass there is a quite colourless, structureless area. This advanced stage is much more general in the cervical than in the lumbar region. In Marchi preparations the pigment granules are not darkly stained, and often the centre of the pigment region is paler than the cytoplasm.

Central canal : In the cervical region, for a short tract, this canal was enormously distended so that it measured 3·5 mm. on transverse section. It was lined throughout by cylindrical epithelium. In the lumbar region the canal was small.

There is well-marked old degeneration of the pyramidal tracts, most marked in the cervical region.

The histological features of Tay-Sach's disease are pathognomonic, so that although in neither of my cases was there evidence of the disease affecting more than one member of the family, and in neither were the eyes examined for the characteristic cherry-red spot on the macula lutea, we may have no hesitation in accepting them as instances of this disease on the histological findings alone.

So far, according to the recent article of Carlyll and Mott in the 'Proceedings of the Royal Society of Medicine,' March, 1911,* although there is a record of over a hundred cases, no genuine instance of the disease has been recorded in any but a Jewish child. At first I thought both my cases were exceptions to this rule, but inquiries elicited the information that the father of Case 1 was a Christian Israelite, and, in spite of my informants the patient's brother's unwillingness to admit his Hebrew extraction, I think we must regard this case as no exception to the rule. The other, however, occurred in the son of an Essex man, who assures me that neither he, his wife, nor any of their forbears, so far as he knows, have, or have had, any Jewish blood in them. So that we may fairly certainly conclude that Case 2 is an exception to the hitherto unbroken rule, that only Jewish children suffer from the disease. This fact alone would amply justify me in publishing the case, but there are also other points of interest to be noted in both, in respect to the age of the patients, the pathological appearances as seen by special staining, and the ætiology of the disease.

As regards the age, both were far beyond the limit generally assigned to this disease. Carlyll, in the paper just quoted, states that it is justifiable to tell parents that children with this affection

* *Ibid.*

will not reach the age of three years. My first case was fourteen when she died from an intercurrent complaint; my second was over five years.

Mott takes exception to the name of "idiocy" applied to the disease; but his objections lose their force when this name is applied only to cerebropathic states in infants either before, at, or shortly after birth. This is the sense in which many, including the writer, now use the term. So that instead of idiocy being only a severe form of imbecility, it has no connection with imbecility, and lies at the opposite extreme in the classification of insanity, that is to say, among the traumatic (using this term in its widest sense) insanities. And the very lack of developmental defects, on which Mott rests his objections to the term "idiocy," become strong evidence why the disease from the cerebropathic point of view should be termed "idiocy." However, it should be noted that Case 2 did show certain features, which might be looked upon as stigmata of degeneration—to wit, absence of thumbs and dilatation of the central canal of the cord.

Gliosis, using the term as connoting an overgrowth of neuroglia in contra-distinction to other glia cells (mesoglia), is evidently not an essential feature of the disease. It was present to only a slight pathological extent in both my cases, and was absent in all the cases described by G. Holmes,* and indeed it has, with very few exceptions, been absent or inconsiderable in all the cases so far reported.

I look upon the mesh-like fragments seen on the swollen cells and their dendrites as Golgi nets, and I have produced evidence† that these nets are a derivative from the mesoglia cells which occupy the pericellular space. If the accumulation of nuclei in these spaces are nuclei of mesoglia cells, then an increase of this tissue is, if not an essential, at all events a very common or constant feature of the disease. The abundance of beaded neuro-fibrils in the cortex in Case 2 is of interest, considering the very extensive condition of alteration in the ganglion cells. This may to some extent be accounted for by the lesser participation apparently of the intercalary or darkly stained cells in the diseased process, if, as the writer believes, these beaded neuro-fibrils are given off by these cells.

A word as to the ætiology. Can syphilis be so certainly excluded from the causation as Carlyll would have us believe? In both my cases there were points suggestive of syphilis. In Case 1 the mother gave birth to ten children, who were either stillborn or only lived a

* 'Brain,' 1906, xxix, pp. 180–208.

† *Ibid.*, 1904, xxvii, pp. 64–83; 'Rev. Neur. and Psych.,' 1905, iii, p. 773.

few months, before giving birth to the patient. The character of the patient's bone-lesions was suggestive of syphilis, as also the proliferation of lymphocytes in the peri-adventitial spaces of the vessels of the brain cortex; In Case 2 the small, peg-like teeth and the peri-adventitial proliferation around the cortical, thalamic and caudal vessels; then, further, G. Holmes, in the same number of the 'Proceedings of the Royal Society of Medicine' * already quoted from, records a case of amaurotic idiocy, where also the peri-adventitial cellular infiltration was, as the author remarks, suggestive of congenital syphilis, and this case was the brother of one of Carlyll's cases. Mott states that he has examined all the tissues of the body in several cases and could not find any glandular lesion. This is a somewhat gigantic task, and it is quite possible that, even granting the lesion to be visible to the microscope, it may have escaped notice. So that the suggestion made by Gordon,† that the disease owes its origin to a failure of metabolism, the result of some gland lesion or anomaly, is not one to be hastily discarded.

Mott supposes that the changes found in the nerve-cells are due to a failure in the nuclear material to build up the nucleo-protein Nissl substance out of lipoid substances contained in the cytoplasm, which have first to be decomposed by a nuclear ferment. The pigment, he states, is a fatty substance of the nature of a lipoid, as it stains by all the methods which stain the myelin sheath, and with Scharlach red, a specific fat stain, it colours more or less intensely in proportion to the degree of swelling and morphological change. He notes that it stains *unsatisfactorily* with Marchi's stain. In my preparations stained by osmic acid after bichromate hardening I found an entire failure of the pigment to stain with osmic acid—in parts it was even lighter than the cytoplasm. Mott attempts to explain this failure to stain, or partial failure (in his cases), by assuming that the process of decomposition of the lipoid into glycero-phosphoric and oleic acids is incomplete. Mott's hypothesis is ingenious, though how far his efforts to account for the unsatisfactory staining of the pigment with Marchi in his cases are convincing is a moot point. I should like to accept them, but find it difficult to believe that if, as he supposes, there is a process of decomposition going on, at least in places it would not have arrived at the stage when the pigment would be in a condition to react to osmic acid in the way characteristic of non-phosphorised fats. But granting his explanation to be substantially correct, it is still most compatible with

* 'Proceedings,' 1911, iv, pp. 199–204.

† 'New York Med. Journ.,' 1907, lxxxv, p. 294.

a failure in metabolism due to some gland deficiency or anomaly, and if so, then amaurotic idiocy must be ranged alongside the idiocy produced by defective thyroid secretion, and perhaps, like this, it will eventually yield, in part at least, to therapeutic measures.

THE PATERNAL TRANSMISSION OF SYPHILIS.

By C. F. Marshall, M.Sc., M.D., F.R.C.S.
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In 1529, Phillipus von Hohenheim (otherwise known as Paracelsus), writing on the subject of syphilis, remarked "*Fit morbus hereditarius, et transit a patre ad filium.*"

From that time the paternal transmission of syphilis was generally accepted by the majority of syphilologists, till in 1903 it was denied by Matzenauer, who attempted to prove that there was no evidence in its favour, and that transmission always took place from the infected mother. More recently, microbiological and serological evidence has been brought to bear on the question.

In dealing with this subject we have three problems to consider:

(1) Is it possible for syphilis to be transmitted from father to child by spermatic infection of the ovum?

(2) Is it possible for a healthy mother to be infected from a fœtus resulting from spermatic infection of the ovum, *i. e.* by conceptional syphilis (the "*choc-en-retour*" of Diday)?

(3) Is it possible for a healthy mother to bear a syphilitic child infected by the father without becoming infected herself?

These three problems are all interdependent, for the occurrence of conceptional syphilis implies infection of the fœtus through the father. The point of controversy is whether the mother of a syphilitic child is infected by direct contact from the father in the usual way, and is, therefore, herself always syphilitic, or whether the syphilis of the child may be due to spermatic infection of the ovum without infection of the mother. In the latter case there are three possibilities: (i) The mother may be infected from the fœtus (conceptional syphilis); (ii) she may be rendered immune by the passage of antitoxins from the fœtus; (iii) she may be unaffected.

In the solution of these problems there is clinical, microbiological, and serological evidence to be considered.

Clinical evidence.—The following are the chief clinical arguments in favour of paternal transmission: (1) A woman may bear a syphilitic child by her first syphilitic husband, and afterwards healthy children from a non-syphilitic husband. (2) After a series of syphilitic children a healthy child may be born after mercurial treatment of the father only.

Against these Matzenauer brings forward the following counter-arguments: (1) He considers that the mother of a syphilitic child is always infected directly by the father, so that the question of paternal transmission only applies to the first child; after this the influence of the father cannot be proved. He explains the subsequent birth of healthy children by alternating transmission, which is sometimes observed in mothers who are known to be syphilitic. The intensity of transmission does not always correspond to the intensity and age of the mother's disease; severely affected children may be born from a mother with latent syphilis, and healthy or only slightly affected children from a mother with recent syphilis. (2) Assuming that the mother of a syphilitic child is always herself syphilitic, treatment of the father is immaterial, and the birth of healthy children after such treatment is also explained by alternating transmission. (3) There are contrary observations which show that apparently healthy mothers may give birth to syphilitic children, not only from the first syphilitic husband, but also from a second or third healthy husband.

With regard to alternating transmission, apart from the effect of treatment, this may be explained by a recrudescence of the disease in one of the parents or by an intervening genitor. Hochsinger states that alternating heredity is very rare, and he has only observed four cases where a healthy child was born in the middle of a series of syphilitic pregnancies. He explains these cases by an intervening genitor, the healthy child being procreated by a non-syphilitic father.

As regards the instances where a mother gives birth to a syphilitic child by a second healthy husband, Hutchinson thinks it possible that these may be explained by telegony, *i. e.* that the first impregnation influences subsequent conceptions by another husband. He suggests that the virus is stored in the ovaries and influences subsequent impregnation.

It thus appears that Matzenauer's arguments against paternal transmission, although plausible, can be met with explanations which are equally plausible, if not more probable.

The two principal assumptions on which Matzenauer based his denial of paternal transmission are: (1) That the semen is not contagious, and that there is no infective disease in which the semen has been proved to be contagious, or to contain the causal micro-organisms; (2) that the immunity of the mother of a syphilitic child to infection with syphilis (Colles's law) shows that she is herself infected with the disease.

As regards the first point, this has been contradicted by the experiments of Finger and Landsteiner. These observers successfully inoculated two apes with the semen obtained by expressing the seminal vesicles of a patient with secondary syphilis. In another case a positive result was obtained by inoculating an ape with semen from a case of syphilis of three years' duration. They conclude that the semen is always contagious in the secondary period, even when the testicles are apparently healthy, and in tertiary syphilis when the testicles are diseased.

However, the fact that the semen may contain the virus, although in favour of paternal infection of the ovum, does not exclude the possibility of direct infection through an abrasion of the vulva, vagina or uterus.

As regards the second point—the immunity of the mother of a syphilitic child to infection—Matzenauer does not believe in the occurrence of infection of the mother from the fœtus, or syphilis by conception, but considers that she is always infected directly by the father, and that the chancre escapes notice. But this will not account for the frequent absence of secondary symptoms in such cases, which would assuredly be noticed if infection took place in the usual way.

The negative results of inoculation of mothers of syphilitic children by Caspary and Neumann is in favour of Colles's law of immunity. On the other hand, cases of exception to this law have been reported by Finger and others, where mothers are said to have contracted chancres of the nipple by suckling their syphilitic infants. Matzenauer, however, after investigation of thirty cases of this kind which had been published, came to the conclusion that none of them fulfilled the necessary conditions. He found that half the cases were incompletely recorded; that in some cases the parents were healthy, and the child acquired syphilis after birth, and then infected the mother; that in other cases the symptoms in the mother were recurrences of syphilis contracted before the birth of the child. Fournier and Hutchinson say that, in all their long experience, they have never met with an exception to Colles's law.

Recent research in immunity in syphilis indicates that immunity is relative and not absolute, so that apparent exceptions to Colles's law may, in some instances, be due to reinfection.

Evidence of greater value is obtained by prolonged observation of cases. Hochsinger has recorded the histories of seventy-two families in which the fathers were syphilitic, but the mothers showed no sign of the disease during periods of four to nineteen years; fifty cases were under observation for six years. It may, of course, be said that these mothers have latent syphilis, and will show tertiary symptoms later on, but it is certainly unusual for a patient with syphilis to show no symptoms for such long periods.

Microbiological evidence.—More recent arguments which have been adduced against paternal history are: (1) that the spirochæte is too large to enter the spermatozoon; (2) that it is too large to enter the ovum without destroying it. The first point may be disregarded; there is no need for the spirochæte to enter the spermatozoon, for it may be conveyed in the fluid part of the semen. The second point requires more consideration. That spirochætes do actually enter the ovum has been shown by Levaditi and Hoffmann, who found them in the ova in cases of hereditary syphilis. That the spirochæte, having entered the ovum, must necessarily destroy it, assumes that this microbe always exists in the same morphological state. However, it has been shown by Balfour that under certain conditions the *Spirochæta pallida* sheds granules, which he regards as probably of the nature of spores. The same process has also been observed in other varieties of spirochætes by Leishman and others. Now this spore-formation probably occurs when the spirochæte finds itself in an unsuitable medium, and is an attempt to perpetuate its species by assuming a more resistant form. Balfour observed the phenomenon after treatment with salvarsan—no doubt an unsuitable medium for spirochætes to flourish in, but one which apparently does not necessarily kill them. Now, it has been shown by Ehrmann and Levaditi that the *Spirochæta pallida* has a predilection for the lymph-spaces of the connective tissue rather than the cells of organs, so that the ovum would not be a suitable medium for it to grow in. It is, therefore, conceivable that the spirochæte after entering the ovum sheds spores, and that these develop into adult spirochætes with the growth of the embryo.

Assuming that infection of the ovum by the spirochæte can occur, the next question to consider is whether the ovum thus infected can give rise to a syphilitic fœtus without infection of the mother. In other words, can the spirochætes, their spores or their toxins, pass

the placental barrier? On this depends the occurrence of conceptional syphilis.

Strauss and Chamberland showed that anthrax bacilli can pass through the placenta, so it is quite possible that the spirochæte, or at any rate its spores, may do the same.

Assuming the truth of conceptional infection, we may, therefore, conceive it as occurring in two forms, or rather two degrees of intensity. In the first form—syphilis by conception—the mother shows signs of secondary syphilis during pregnancy. In the second form—latent conceptional syphilis, the disease remains latent for a time, but may manifest itself in later years by tertiary lesions. The difference between these two forms was explained by Fournier as due to difference in the quantity of the virus—a large quantity of virus causing syphilis by conception, and a smaller quantity latent conceptional syphilis with immunity to infection. In the light of modern research we may explain the difference by proliferation of spirochætes in the first case, and by spore-formation in the second case. The passage of toxins alone will not account for the long latent period which generally elapses before the appearance of tertiary syphilitic lesions in the case of latent conceptional syphilis.

Baisch found spirochætes in the maternal part of the placenta in cases of congenital syphilis, but came to the conclusion that they were of maternal origin, and not due to passage from the fœtus. His investigations and conclusions will be mentioned with the serological evidence.

Serological evidence.—It has been shown by several observers that the majority of the mothers of syphilitic infants give a positive Wassermann reaction. Leroux and Labbé obtained it in 71 per cent. of cases, whether the mothers showed signs of syphilis or not. Other investigators give similar figures. From this fact it has been somewhat illogically inferred that all mothers of syphilitic children are themselves syphilitic, and that this explains Colles's law of immunity, the mothers being immune because they are always syphilitic. But if we examine the question more closely we shall see that this is by no means necessarily the case.

Assuming that the Wassermann reaction is evidence of syphilitic infection, the statistics only show this reaction in about 70 per cent. of the cases. There still remain 30 per cent. to be accounted for. Now these figures approximate closely to Fournier's statistics of paternal and maternal transmission of syphilis to the offspring. His figures are 84 per cent. for syphilis of maternal and 37 per cent. for syphilis of paternal origin. It is therefore not impossible that the

70 per cent. of mothers who give a positive Wassermann reaction represent cases of maternal transmission, while the 30 per cent. who fail to give the reaction may represent cases of purely paternal transmission without infection of the mothers.

However, the matter is not so simple as this, for it is probable that the majority of mothers are infected either with active or latent conceptional syphilis if paternal transmission occurs. Leroux and Labbé state that they always obtained a positive reaction in the mother when this was also present in father and child. In any case a positive Wassermann reaction in the mother is no argument against paternal transmission.

Baisch has attempted to solve the problem by serological examination of the mothers and infants, combined with the examination of the placentas for spirochætes. He remarks that there are three explanations of the fact that the majority of mothers of heredosyphilitic infants give a positive reaction: (i) the mothers may have latent syphilis; (ii) the complement-binding substance which produces the reaction may be derived from the fœtus and pass through the placenta into the maternal circulation without causing actual syphilis; (iii) the mothers may be immunised, if the complement-binding substance in the maternal circulation is of the nature of an antitoxin. He concludes that the first explanation is the correct one for the following reasons: (i) The presence of spirochætes in the maternal part of the placenta; (ii) the persistence of the positive reaction several months after the birth of the child; (iii) the fact that the reaction may be positive in the mother and negative in the child, and inversely. According to Baisch, all this signifies that the complement-binding substance is formed in the organism in which it is found, and does not traverse the placenta.

Leroux and Labbé, on the other hand, consider that maternal syphilis is more often derived from the fœtus (conceptional syphilis) than by direct infection from the father.

Baisch apparently infers from the results of his investigations that the mother of a syphilitic child is always syphilitic herself, and does not derive the disease from the fœtus by conceptional syphilis. But in arriving at this conclusion I think he attaches too much importance to the evidence of the Wassermann reaction. The persistence of the reaction in the mother after the birth of the child may be in favour of her being actually syphilitic, but it is no evidence against conceptional syphilis, still less against paternal transmission. Again, if the reaction is sometimes positive in the mother and negative in the child, and inversely, this is only in accordance with

general experience of the reaction, which is known to be subject to considerable variations, the causes of which are not accurately known. Not only this, but negative reactions are known to occur sometimes in patients with obvious symptoms of syphilis. The Wassermann reaction may be evidence of syphilitic infection, and may be useful in diagnosis when taken in conjunction with clinical evidence, but to attempt to decide such problems as the paternal transmission of syphilis and syphilis by conception on the sole evidence of a variable and uncertain laboratory test is, I think, going too far. As regards the presence of spirochætes in the maternal portion of the placenta, they might equally well have come from the fœtus.

Conclusion.

I think we may conclude from the above considerations that there is not sufficient evidence to justify the renunciation of the doctrine of the paternal transmission of syphilis. This doctrine is strongly supported by clinical evidence, while theoretical considerations are quite as much in favour of it as against it. As Sir Jonathan Hutchinson remarks, "It is a matter of constant experience that the father of a syphilitic infant is known to have had the disease before marriage, whilst not a symptom has ever been observed in his wife. It is improbable in the highest degree that a large number of married women should acquire syphilis in its primary form, pass through its secondary stages, and yet never know it. Yet this is the supposition which we must adopt, not once nor twice, but as being an every-day occurrence if we reject the belief that a syphilitic father may beget a syphilitic child quite independently of any previous infection of its mother."

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DIABETES INSIPIDUS IN A BOY WITH POSITIVE WASSERMANN'S REACTION; REMARKS ON POLYURIA IN CHILDREN AND INFANTILISM.

By F. Parkes Weber, M.D., F.R.C.P.Lond.,
Physician to the German Hospital, London.

The patient,* A. B—, is an active, bright and intelligent boy, aged 10 years. He is somewhat small for his age: height 115·5 cm.; weight 19 kilog. (The average height for a boy aged ten years is about 131·4 cm., and the average weight 30·6 kilog.) Polyuria and abnormal thirst (polydipsia) were first noticed when he was in his third year, and up to his seventh year he used to suffer from nocturnal incontinence of urine. Otherwise he seems to have enjoyed good health and to have had no bad illnesses. His urine averages about 4000 c.cm., or rather more, in the twenty-four hours; it is of very low specific gravity (1001–1004), pale, and free from albumen, sugar, and tube-casts. There is no evidence of chronic interstitial nephritis, nor of any tumour in the position of the kidneys. Brachial systolic blood-pressure (Riva-Rocci): about 100 mm. Hg. Blood examination on February 20th, 1912: Hæmoglobin, 95 per cent. of the normal; red cells, 5,800,000 to the c.mm. of blood; white cells, 17,900, of which 2·2 per cent. were eosinophiles; specific gravity of the blood, 1039. The thyroid gland appears to be small. A skiagram of the base of the skull, kindly taken by Dr. G. Dorner, shows the sella turcica of normal dimensions, or possibly slightly larger than the average.

There is no history of diabetes insipidus in any other members of the patient's family. He is the eldest of a family of eight children of healthy parents. The mother says that she has had no miscarriages, but that the child coming next to the patient was born dead at full term. Then came the six other children, all still living. Though there is no history pointing to syphilis, the patient's blood-serum gave a positive Wassermann's reaction when kindly tested at the Lister Institute on February 24th, 1912.

Treatment by thyroid feeding and mercurial inunction has so far given a negative result in regard to the polyuria. The exact amount of common salt in the diet seems also to make very little difference in the amount of urine passed.

The above-mentioned Roentgen ray examination of the skull does

* The patient was shown at the Medical Society of London, Clinical Meeting, March the 25th, 1912.

not confirm the view that diabetes insipidus is due to disease of the "pars intermedia" of the hypophysis cerebri.*

There are two classes of polyuria in children. The first class is due to chronic interstitial nephritis and may be associated with congenital syphilis.† The second class may likewise be associated with congenital syphilis, but (as in the present case) there are never any signs of chronic interstitial nephritis and the condition is one of true diabetes insipidus.

In both classes there is sometimes a certain degree of infantilism likewise present, but when renal disease and infantilism have both been pronounced there appears to have been no definite evidence of syphilis, as far at least as one can judge from the cases recently brought forward at the Royal Society of Medicine and elsewhere.

Dr. H. Morley Fletcher's case‡ was that of a boy, æt. 6 years, who was said not to have grown since the end of his first year. He passed a large amount of urine of low specific gravity, in which there was albumen (1·6 per mille) and in which granular tube-casts were occasionally found. Wassermann's reaction was negative. At the Annual Meeting of the British Medical Association, 1911, Dr. Leonard Parsons§ described the case of a girl, æt. 6½ years, whose bodily and mental development was that of a child of three years or even younger. She had suffered from wasting, excessive thirst, and polyuria. The urine, of specific gravity 1010, showed a faint trace of albumen, no tube-casts or renal cells, no sugar. There was no evidence of arterial disease and there was no parental history

* Compare E. Frank, "Ueber Beziehungen der Hypophyse zum Diabetes Insipidus," 'Berl. klin. Wochenschr.,' 1912, xlix, p. 393.

† On the possible and at least occasional connection of chronic interstitial nephritis with syphilis in children, see—J. E. H. Sawyer, "The Ætiology of Granular Kidney of Childhood," 'St. Thomas's Hosp. Rep.,' London, 1906, new series, xxxv, p. 459, and "Chronic Interstitial Nephritis in Children," 'Birmingham Med. Rev.,' 1903, liv, pp. 511, 549; Leonard Guthrie, "Chronic Interstitial Nephritis in Childhood," 'Lancet,' 1897, i, pp. 585, 728, and "Syphilitic Nephritis," 'Brit. Journ. Children's Diseases,' 1908, v, p. 90; George Carpenter, "Syphilitic Nephritis in Infants," *ibid.*, 1908, v, p. 94 (contains references to his earlier writings on the subject); G. A. Sutherland and J. W. Thompson Walker, "Syphilitic Endarteritis and Nephritis in an Infant," 'Reports of the Society for the Study of Disease in Children,' London, 1903, iii, p. 134, and "Two Cases of Interstitial Nephritis in Congenital Syphilis," 'Brit. Med. Journ.,' 1903, i, p. 959; Cassel, "Ueber Nephritis Heredo-syphilitica," 'Berl. klin. Wochenschr.,' 1904, xli, p. 558; J. L. Hirsch, "Chronic Interstitial Nephritis in the Young," 'Amer. Journ. Med. Sci.,' Philadelphia, 1904, cxxvii, p. 1056 (refers to the various possible ætiological factors).

‡ H. Morley Fletcher, 'Proc. Roy. Soc. Med.' (Section for Disease in Children), 1911, iv, p. 95.

§ Leonard Parsons, 'Brit. Med. Journ.,' 1911, ii, p. 481.

pointing to syphilis. At the necropsy the kidneys were extremely small and fibrosed, weighing together less than an ounce. The heart was unusually large. There was broncho-pneumonia present in both lungs. Dr. Reginald Miller's case* was that of a boy, æt. 9½ years, who was of about the same size as his younger brother aged four years. He suffered from thirst and marked polyuria, and there was thought to be slight hypertrophy of the left ventricle of the heart, but the blood-pressure did not appear abnormally high. The urine, of specific gravity 1002–1004, showed a decided trace of albumin, and on one occasion a granular tube-cast was found in it. Wassermann's reaction was negative.

At the discussion on Dr. Miller's patient Dr. Langmead referred to two cases in which post-mortem examination had been made. One was that of an extremely anæmic man, aged 23 years, who was under-sized and poorly developed mentally. The Wassermann reaction was negative. His urine was albuminous, and he ultimately died from the anæmia. The necropsy showed slight fibrosis of the kidneys as well as fibrosis of the spleen and liver. The other case was that of a girl, aged 19 years, undersized and mentally weak, and likewise suffering from severe anæmia, which dated from early life. There were definite polyuria, polydipsia and albuminuria. The Wassermann's reaction was negative. The anæmia ended fatally, and the necropsy showed marked chronic interstitial nephritis and also fibrosis of the spleen. One kidney weighed ½ ounce, the other one ounce. Dr. Naish, at the same meeting, referred to post-mortem examinations on two boys, one aged 16½ years, who looked as if he was only about ten years old, the other aged 9½ years, though appearing only about four years old. In both patients there was a history of polyuria and polydipsia for a considerable portion of their lives, and there was no evidence of syphilis. In both cases the kidneys were very small and fibrotic, weighing about 1½ ounces each.

Such cases of infantilism with polyuria due to chronic interstitial nephritis are more rarely met with than cases of polyuria (diabetes insipidus) associated with more or less infantilism (bodily or mental or both bodily and mental infantilism) without evidence of organic renal disease. In the latter class nocturnal enuresis (itself an infantile phenomenon) may likewise be present, and, just as nocturnal enuresis tends not rarely to run in certain families, so also two or more members of the same family are sometimes affected with the diabetes insipidus. The occasional connection of diabetes

* R. Miller, 'Proc. Roy. Soc. Med.' (Section for Disease in Children), 1912, v, p. 38.

insipidus with syphilis has been long recognised, and Professor Arnozan,* of Bordeaux, has recently shortly discussed the subject. M. von Zeissl,† in describing a case in 1901, referred to a good deal of the older literature on the connection of diabetes insipidus with either inherited or acquired syphilis. Seigneurin,‡ in 1903, collected twenty-eight cases of diabetes insipidus associated with inherited or acquired syphilis and thirty-five cases associated with tuberculosis. T. B. Futcher,§ in 1904, thought that four out of his nine cases of diabetes insipidus were due to syphilis, and A. Valphiades ‖ (1907) is amongst those who have reported cases cured or benefited by mercurial injections. It is quite clear, however, that in cases of diabetes insipidus, and also, of course, in cases of polyuria due to kidney disease, great caution should be exercised in regard to the use of antisyphilitic methods, and especially so in children, who are very liable to serious complications from mercurial treatment.

OBSERVATIONS ON A NEW GALACTAGOGUE.

By W. Lauzun-Brown, L.R.C.P., L.R.C.S., Edin.; L.F.P.S., Glas.,
Vice-Chairman, Finsbury Public Health Committee.

It is well known in dietetics and therapeutics that the food of the animal as well as the season of the year modifies the quality and the quantity of the milk secretion. Goats' milk, for instance, is said to be astringent after the animals have eaten oak leaves or pine leaves, and to be specially beneficial as a gastric sedative after they have eaten the wild hellebore. When a particular therapeutic action on a milk-dieted invalid was desired, it was customary to prescribe, not only for the infant or invalid, but for the animal from whose milk the diet was to be provided. A well-known historical instance occurred in the practice of the famous Italian physician of Milan, Jerome Cardan. He was called to Scotland to attend Mary, Queen of Scots, about the end of the sixteenth century. Advantage was taken of his presence in Edinburgh to

* Arnozan, "Diabète insipide d'origine syphilitique," 'Journ. de Méd. de Bordeaux,' 1912, xlii, p. 165.

† M. von Zeissl, "Diabetes Insipidus infolge von Syphilis," 'Wien. Med. Presse,' 1901, xlii, p. 1489.

‡ Seigneurin, 'Thèses de Lyon,' 1903–4, No. 46.

§ Futcher, "Nine Cases of Diabetes Insipidus," 'Trans. Assoc. Amer. Physicians,' 1904, xix, p. 247.

‖ Valphiades, 'Revue de Médecine,' Paris, 1907, xxvii, p. 297.

get him to attend the Archbishop of St. Andrews, John Hamilton, whose brother was heir to the throne of Scotland, but who never had robust health, and was at that time suffering from some lung disease, probably phthisis. He treated him with beef juices made of blood-serum, chicken broths flavoured with cinnamon, wine, and ginger, but milk was the principal "sheet-anchor" in the dietary. The physician contended that milk kept the stomach open and cleared the brain, and he ordered the Archbishop to drink from two to four pints of asses' milk, either all at once, or in several doses with no greater interval than an hour. The ass was treated also on the ground that the quality of the food of the animal modified the quality of the milk ordered for the sick prelate. The animal was ordered, therefore, to be provided with mild herbs, such as mallow, juicy beet-roots, rose blossoms, as well as fresh corn and barley, and the mother and the foal were ordered to run together freely in a meadow daily. This prescription may afford a hint to those who are interested in the milk treatment of consumptives at the present day.

It is well known that a cow fed on turnips flavours not only the milk, but the fat derived therefrom. New clover gives odour to the milk. Similarly with leeks, onions, garlic, showing that the active principles are secreted by the milk gland. Physicians in earlier days were most careful to select milk from cows fed on vegetables containing aromatics and sweet-smelling essential oils. The oils of dill and aniseed supplied to the mother make the child feed better, and reflexly stimulate the milk secretion. Lily oils, rose oil, were favourites in past days. Other substances give the milk an unpleasant taste. Oil of onions is an example of this, and at the same time acts as a soporific, being used in eastern countries by mothers who wish to send their babies to sleep. Similarly, breast-fed children are quieted by the mother taking opium or swallowing other narcotics which affect the milk.

Among the articles from the vegetable kingdom which have long been held in esteem for increasing the milk supply, other than local irritants, are beans, peas, and lentils; cabbage was recommended by Hippocrates, and the carrot, beet-root, cresses, and chicory, by Paul of Ægina; barley in the form of malt and hops or beer had a great reputation, and was one of Professor Tarnier's favourite galactagogues, and Dr. Carron de la Carrière speaks highly of the milk-producing properties of galega, the efficacy of which is obvious judged by the criterion of the infant, which rests and sleeps better, and increases in weight when this is administered to the mother.

These agents, although theoretically proper, are at present but little used, either by mothers or nurses, and beyond these, the pharmacopœia has little to offer to the medical practitioner, or the midwifery nurse, in the way of milk-inducing agents.

One of the modern preparations—Lactagol—deserves the consideration of the profession for its favourable action on lactic supply is an extract of the grains of the cotton seed. This product has no toxic properties; as much as 50 grm. can be taken each day without inconvenience, and the analysis of mother's milk after a course of this product can be clearly shown to contain an increased quantity of fat and casein. In properly regulated quantities and under the supervision of the doctor this product has been found to have remarkable galactogenic properties.

I have had the privilege of putting this preparation to pretty severe tests in the case of suckling mothers. One mother who had never been able to continue suckling for more than four months has by means of this preparation been able to suckle her third baby for nine months, the baby being plump and thriving, to the great delight of the mother. There was never any difficulty in getting the nursing mother to take this preparation. The milk supply has been abundant. The mother has never felt so well during the period of lactation with any of her former children Naturally the administration of preparations of this nature is begun with a considerable degree of scepticism; but when case after case in which it has been administered gives evidence of undoubted efficiency, one soon comes to the conclusion that there must be some galactogenic properties in it, and it is a matter of supreme importance, bearing in mind that artificial feeding is the most potent cause of the maladies of early infancy, and the best recognised factor in the production of infantile mortality.

The construction of this product has been described minutely by Dr. Barlerin of Paris. The seeds are reduced to a fine powder, the oil and resinous products extracted by ether and benzine. The active principle is obtained by infusing the residue, and getting rid of the colour and of the odour. The resultant liquid is concentrated *in vacuo*, and the blocks are crushed into powder. This powder is free from cellulose, oil, and all other indigestible products. The finished product is free from all toxic properties, and can be taken in gradually increasing doses. It appears from experiments, which have been conducted in France, Germany, and in this country, that the active principle, so far as the milk-producing properties is concerned, is edestine.

Experiments have been extensively made with this product on domestic animals. Three days after the commencement of the treatment it was noticed that the quantity of milk had increased by 30 per cent., and the fats and the solids had increased likewise to a wonderful extent. This was the first indication of its application as a galactagogue in the case of nursing mothers in whom the lactic secretion was insufficient.

Many observations have been made on cases in which this product has been administered, of which the following may be taken as an example. A lady with her second child noticed at the fifth month that the breasts were becoming soft, and the milk diminishing in quantity, and the child, though suckling oftener and longer, remained unsatisfied. She was put upon this preparation, and after having taken three table-spoonfuls of the product in a cup of milk, she noticed a large accession of milk into the breast during the night, and had to wake the child to give it the breast. She continued the regular use of the product, and was able to nurse afterwards without trouble.

Many such cases are on record all tending to show that in cases of difficult lactation the administration of this product, lactagol, increases the lactic secretion where failure is threatened, without injuring either the health of the mother or the alimentation of the child.

It is noticed that the administration of lactagol increases both the fat and the protein properties in the milk. If taken in excess, it causes an abnormal increase in the milk fat.

The results hitherto obtained by those who have had an opportunity of using it and studying its action are so assuring that few practitioners who desire to be *au courant* with the newest agents can afford to fail to give this product an extensive and careful trial.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 22nd, 1912.

Dr. G. A. Sutherland, *President, in the Chair.*

Leucoderma and Premature Canities.—Dr. J. L. Bunch.—The girl first attended the Queen's Hospital for Children in January, 1909, when aged 11 years. Some twelve months previously she had developed some round or oval white patches on her chest and shoulders and these had extended and increased in number, spreading also on to her neck and limbs, during the succeeding months. Her mother denied that the appearance of the white patches had been preceded by any hyper-pigmentation, or that any increase of pigment had been followed by atrophy of pigment in the affected areas. The child appeared to be healthy, and only complained of the disfigurement caused by the leucodermic patches. These were very numerous and extensive; many of them were irregular in outline, milky-white in colour, with a convex edge, and surrounded by a concave pigmented border. The patches were not elevated, and to the touch no difference from the surrounding healthy skin could be detected. No subjective symptoms were present; the irides were not affected.

Although there was no apparent change in the pigmentation of the skin of the scalp, there was over the right frontal region a considerable quantity of quite white hair, the depigmentation extending right away down to the roots, and this white hair contrasted sharply, however the hair was dressed, with the rest of the child's yellowish hair. The scalp over this area did not appear to differ either to sight or touch in any way from the other parts of the scalp. There was nothing pointing to a syphilitic history; no history of any injury, burn or nervous affection, and no hereditary predisposition.

Although at this age such cases are nearly always progressive, the leucodermic areas have in this child become much less marked and diminished in size, and the white hair has already acquired a considerable amount of pigment.

A Case of Purulent Pericarditis.—Dr. J. Porter Parkinson and Mr. Douglas Drew.—Boy, aged 4½ years, had an attack of pneumonia involving the bases of both lungs at the end of last October. The urine contained blood, pus, albumin, and epithelial and blood-casts, with many pneumococci. The pneumonia ran an ordinary course, the temperature becoming normal by November the 6th, and the signs in the right lung clearing up. The pulse-rate, however, remained the same and the heart-sounds became muffled, but there was no friction or increase of the cardiac dulness. After a few days this sign appeared, till finally there was dulness up to the first rib and increase to the right. On November the 13th there was swelling of the face and some œdema over the præcordium. The next day Mr. Drew excised 2 in. of the fifth costal cartilage, and evacuated 10 oz. of pus which contained pneumococci in pure culture. The recovery was uneventful, the signs of consolidation at the left base disappeared, and the urine became normal by November the 22nd. There are now no signs of enlargement of the heart either clinically or by the X rays.

Chronic Jaundice and Splenomegaly.—Dr. Leonard Guthrie.—Girl, aged 6 years. Eighteen months ago she became jaundiced. Icterus has varied in intensity from time to time, but has never disappeared entirely. The urine is sometimes dark in colour, but usually pale; the stools are said to be always dark brown. She often complains of feeling sick, but seems well on the whole.

Past illnesses.—Varicella and pertussis at three years, "rheumatic fever" at five years, and morbilli at five and a half years, followed by chorea. Has always been troubled by thread-worms.

Family history.—Negative.

Present condition.—Fairly well-nourished blonde. On admission to hospital, December the 11th, 1911, the skin, mucous membranes, and conjunctivæ were of bright canary-yellow colour. Bowels constipated, motions dark, containing much mucus, but no oxyurides. Urine pale, no bile-pigment, acid, 1015, no albumin. Heart and lungs normal. Liver not felt, area of dulness normal. Spleen easily palpable, extending 2 in. below costal margin. Notch not felt.

Blood examination.—Serum is deep yellow coloured. Reds, 4,190,000; whites, 10,200; hæmoglobin, 80 per cent. Differential count: Polymorphonuclears, 76 per cent.; large lymphocytes, 4·5 per cent.; small lymphocytes, 17 per cent.; eosinophiles, 2·5 per cent.

During three months' observation the icterus has varied greatly in intensity, but has never quite disappeared. The motions are always dark, and the urine has never contained bile-pigment. The spleen is still enlarged. The area of hepatic dulness is normal. The probable diagnosis is: "Toxic hepatic cirrhosis with splenomegaly."

Bilateral Deltoid Paralysis. Dr. G. A. Sutherland.—Female, aged 1 year. Child appeared to be healthy until four months ago, when she had an illness of an indefinite character lasting for a fortnight. Since then there has been little movement about the shoulder-joints, the patient being able to move the forearms and hands freely. Child is fat and flabby generally. The left deltoid muscle appears to be completely paralysed, and the right retains very little power. Definite wasting cannot be determined owing to the amount of superjacent fat. Bones and joints in the neighbourhood appear to be normal. There is no rigidity or tenderness. All the other muscles of the extremities are very flabby, but there is no evidence of paralysis elsewhere.

Case of "Subacute Arthritis of Shoulder-Joint" (due to an Organism of the Bacillus Enteritidis Type).—Mr. Lionel E. C. Norbury.—Male, aged 11 months, admitted to hospital on August the 11th, 1911, with a history of a fall and (?) injury to left shoulder four weeks previously. Shoulder noticed to be swollen one week later. Patient treated for "pleurisy" three weeks before coming to hospital.

On examination.—Signs of resolving pneumonia at left base; no pyrexia, no cough. Slight swelling of left shoulder-joint. Treated as an out-patient for eight days. Swelling of joint gradually increased; painful; limitation of movement.

On admission.—Temperature 99·4° F. Considerable effusion into shoulder-joint. Diagnosis of subacute arthritis, probably pneumococcal in origin.

Arthrotomy by anterior incision. Turbid fluid containing deposits of lymph evacuated. Irrigation of joint with normal saline solution. Suture; no

drainage. Temperature fell to 96° F. on following day, rising to 100·8° and 101·4° F. on second day, after which it remained subnormal. Diarrhœa with green stools on second day after operation, and off and on for several days. Sutures removed on seventh day; wound almost healed, very slight discharge. Movements at joint good.

Patient examined on March the 19th, 1912.—General condition good; movements at shoulder-joint quite free.

Report on fluid taken from joint at time of operation.—"Gram-negative motile bacillus present, which does not liquefy gelatine, and ferments (acid and gas) glucose, galactose, maltose, mannit, dulcit, and sorbit, and does not ferment lactose, saccharose, raffinose, dextrin, and glycerine; indol is not produced. It therefore belongs to a large group of organisms of *Bacillus enteritidis* type, which includes *Bacillus enteritidis* (Gaertner), *Bacillus paratyphosus*, etc.; it does not include the organism described as Morgan's No. 1, which is frequently found in cases of diarrhœa in children."

Case of Cerebral Palsy.—Dr. G. A. Sutherland.—Male, aged 1 year. Born at full term, first child, normal labour without instruments. Child weighed 9 lb. Breast-fed for six weeks, then cow's milk and barley-water; became a fat child. At the age of seven months began to have screaming fits, drawing up of the legs and twitching of the head and eyes. At the age of ten months had a series of general convulsions lasting two days, about nine each day. Since there has been an occasional general convulsion.

Child is very fat and flabby. Face and head look larger when viewed from the front, but there is much flattening in the antero-posterior diameter, producing a brachycephalic condition. Constant jerky movements of the head, trunk and extremities take place, spasmodic and purposeless. He takes no notice of what is going on, seldom cries, and never smiles. He is unable to sit or to support himself sitting up, or to balance the head. The pupils react to light, and there is no ocular paralysis or nystagmus. The fundi are normal. Vision is apparently present, but hearing seems absent.

Congenital Deformities in the Lower Limb.—Mr. Duncan Fitzwilliams.—Boy, aged 7 years. The head of the femur was high on the dorsum ilii, nearly as high as the anterior superior iliac spine. The femur was much shorter than its fellow. The head of the tibia was displaced forwards and slightly outwards, and the ligaments of the knee-joint were very lax. The patella was absent. The foot was in a position of extreme equino-varus.

Congenital Dyschezia.—Dr. A. F. Hertz (*vide* p. 145).

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

February the 1st, 1912.

The Presence of Blood-pigment in the Fæces of the New-born.—Dr. H. Colwell and Mr. Bryden Glendinning examined the fæces of fifty infants during the first twelve days of life to determine whether blood-pigment was normally present. They found that it was present in the

great majority of cases, being most frequently met with during the first four days of life. They attributed its presence to minute hæmorrhages into the intestinal canal caused by the sudden circulatory disturbance resultant from the change to extra-uterine life. The hæmorrhage ceased as soon as equilibrium of the circulation was established, which occurred normally at he third or fourth day.

Philadelphia Pediatric Society.

March the 12th, 1912, Theodore Le Boutillier, M.D., President.

Carpo-pedal Spasm.—Dr. Eleanor C. Jones presented a coloured girl, aged 15 months, showing symptoms of tetany. Carpo-pedal spasm was marked; the hands showed the so-called "obstetric hand." Chvostek's sign was marked, and Erb's sign was also present. The knee-jerks were increased. The child had rachitis, with acute intestinal indigestion; was well nourished, but backward in development. She did not walk or talk. Under treatment with calomel, followed by high colon irrigation, bromides and calcium lactate, the carpo-pedal spasm had become intermittent.

Dr. H. K. Hill said that he had seen a similar case at the Babies' Hospital last summer suffering with severe and prolonged gastro-enteritis, finally ending in death. The present case, giving a history of head-nodding and having had slight nystagmus, was interesting as another case of spasmus nutans with a history of rachitis, of which Dr. Hill had reported four in a paper read before the Society last year. He suggested that the child might have always lived in a dark room.

Dr. J. N. Jopson quoted many authorities to support the theory that infantile tetany was due to hæmorrhage into the parathyroids at birth, the spasm appearing only after fibroid changes had occurred in the parathyroid glands.

Dr. J. F. Sinclair spoke of having seen three cases of tetany following gastro-enteritis last summer. In one the tetany did not recur during two attacks of pneumonia, but reappeared somewhat during an attack of whooping-cough which the baby had recently had.

Dr. Le Boutillier said that he had seen a case of marked carpo-pedal spasm recently in a child with congenital syphilis and hydrocephalus. Nystagmus was also noted, but without spasmus nutans.

Congenital Syphilis.—Dr. C. W. Burr showed two boys with congenital syphilis. One, aged 17 years, was about the size of an ordinary boy of ten years. Both showed many stigmata of degeneration.

Dr. Frederick Fraley stated that at the Orthopædic Hospital, where such cases were not infrequently seen, spasticity in children was becoming considered very suggestive of syphilitic conditions.

In answer to Dr. O'Mara's query as to the occurrence of high palate in these cases, Dr. Burr said that a high palate alone was of no significance, but should only be considered when many other stigmata were found.

Vitiligo.—Dr. Hill showed a girl, aged 11 years, of Armenian parentage, who, while in the Philadelphia Hospital for Contagious Diseases with scarlet

fever, developed typical vitiligo, which gradually spread over her shoulders, neck, back, arms, and legs, appearing two weeks after the scarlet fever. There were also three small clumps of blanched hair—leucotrichia. Many forms of nervous diseases, such as chorea, followed scarlet fever, while some chronic skin affections, such as eczema and psoriasis, partially or entirely disappeared during an attack of scarlet fever, only to return after convalescence. But vitiligo is rare after scarlet fever. The fact that the skin was discoloured in Addison's disease and that vitiligo occurred in Graves's disease led to the thought that the evident relation of abnormal pigmentation to the functions of internal secretion of the suprarenal or thyroid glands and the possible upsetting, by an attack of scarlet fever, of the delicate nervous mechanism having to do with the function and secretion of these glands might have something to do with the ætiology of the case.

Intussusception.—Dr. H. S. Carmany showed a specimen from a child, aged 13 months, weaned three months before the attack. Though vomiting began on Friday, a physician was only called in on Sunday. The parents refused operation, though there were mucous stools and a decided tumour. On Wednesday they permitted operation. Tympany now concealed the tumour. The tumour was easily reduced, but the patient was in such bad condition that only a hurried operation was possible; death followed a few hours later. The specimen shows two areas of gangrene, both in the long axis of the bowel.

Dr. Hill spoke of having reported to the Society a similar case while he was resident physician at the Children's Hospital, which Dr. Le Conte had operated upon successfully eleven hours after admission, the child leaving the hospital on the twelfth day. The prominent symptoms were the passage of blood and mucus.

Dr. John Speese said that early diagnosis was essential in order to obtain cure by surgical measures, and that cases of intussusception which existed twenty-four or forty-eight hours were generally fatal. He had seen two cases in which a prompt diagnosis was made and operation performed within four hours from the onset of symptoms. The physicians in both cases based the diagnosis upon the sudden appearance of bloody stools containing mucus and the presence of a palpable tumour. One case recovered, but the other died of pneumonia and a recurrence of the intussusception ten days after the first operation.

Dr. Jopson said that he had operated upon a number of cases of intussusception, all seen late and all fatal. Resection of the bowel had several times been necessary, and this was always fatal. With stools of pure mucus and blood and a palpable abdominal tumour, operation was immediately imperative. The teaching of the use of enemata as a means of reduction was bad, for this delay might kill the baby.

Urethral Calculi.—Dr. Speese reported two cases of urethral calculi occurring in children. In the first instance the first symptoms of stone were manifested by acute retention of urine and pain. The child, aged 2 years, had been entirely well. Though the retention was relieved twice by catheterisation, the third attempt failed because of an obstruction which was thought to be a stricture. On palpation a small nodule was found in the fossa navicularis; meatotomy was done and a calculus the size of a pea removed. The stone was soft, grey, oval, and composed of phosphates. It was firmly embedded in the urethra, having formed a small depression on

the under surface of the canal. It was believed to be a primary urethral calculus because of its apparently long duration, composition, and the absence of symptoms of calculus formation elsewhere in the urinary tract. In the second case retention was not complete, though the stone was of the same size and in the same location as in the first child. Its composition was uric acid, and it was easily removable with forceps. In this case the stone originated in the bladder or kidney, and in being passed became impacted in the urethra and caused the symptoms noted.

Dr. JOPSON said that he had reported two such cases ten years ago and had not seen any since. In both of his cases external urethrotomy was performed.

Ophthalmia Neonatorum.—Dr. ALICE WELD TALLANT, by invitation, read a study based upon a series of thirty-seven cases from the outdoor and indoor services of the Maternity Hospital of the Woman's Medical College of Pennsylvania. Omitting six cases of silver reaction, two of very mild grade, there remained thirty-one cases. Of these, 3 cases, or 9·67 per cent., were ante partum or intra-uterine, the cases developing before birth; 13, or 41·93 per cent., were primary, the infection being received at birth, with symptoms developing in one to five days; and 15, or 43·38 per cent. were secondary, the cases appearing after the fifth day, and thus not due to birth infection. The ante-partum variety was very rare unless cases be included in which the disease developed within a few hours of birth. It was explained by the entrance of infection when the membranes had been long ruptured or by infection passing into the amniotic sac.

The proportion of cases of ophthalmia due to the gonococcus was estimated at from 41 to 72 per cent. In this series nearly five-sixths were clinically gonorrhœal, but only a little over half in which microscopical examinations were made gave positive results. Male and female children were affected with about equal frequency—sixteen and fifteen cases respectively. The virulence of the infection in the mother bore no relation to the severity of the disease in the child. These babies usually gained so well on breast-feeding that it was not advisable to separate the child from the mother unless there was special danger of reinfection through her.

The prophylactic treatment was the usual 1 per cent. silver nitrate solution, one drop in each eye, neutralised with normal salt solution and followed by boric acid. The outdoor results showed four cases of gonorrhœal ophthalmia (two by bacteriological examination) in 2275 births, or 0·175 per cent. In the hospital there were thirty-seven cases (twenty-three by bacterial examination) in 951 births, or 2·34 per cent. Since in three cases the disease was present at birth, and fourteen were secondary cases, the prophylactic treatment failed in at most ten cases, or 1·05 per cent. Although the secondary cases did not mean inefficient prophylaxis at birth, their number could be diminished by the repetition of some prophylactic treatment at intervals of two or three days, if the child's mother was known or suspected to have gonorrhœa. Argyrol might be better in these cases because less irritating. The secondary cases were probably responsible for a certain percentage of the blindness dating from infancy, and showed the need of careful examination of the eyes during the first days of life, even when a prophylactic had been used. Much would be gained if this disease were notifiable. The treatment consisted for the most part in the use of argyrol, supplemented by silver nitrate at need, hot and cold compresses for the swollen lids, boric acid flushing and atropin. Vaccine was used in one case. The

results were good, except in the case of one child, who died from uncontrollable hæmorrhage from the conjunctiva of both eyes—perhaps a case of hæmorrhagic disease of the new-born.

The Non-operative Treatment of Concomitant Strabismus in Childhood.—Dr. H. Maxwell Langdon, by invitation, read this paper. He said that deviation of the visual axes from parallelism was due either to a paralysis of one or more ocular muscles, or to a faulty development of some portion of the ocular apparatus. This might be faulty arrangement of an extra-ocular muscle, which was very rare; a disturbance of the relation existing between accommodation and convergence (Donder's theory); or a deficiency in the development of the power of fusing the image of each eye with that of the other, producing binocular single vision (Claud Worth's theory). Faulty arrangement of the extra-ocular muscles was very rare; the average child which developed a concomitant convergent strabismus was hyperopic, and in order to secure clear distance vision was compelled to use some of the power of accommodation which should be reserved for near work, thereby destroying the intimate association between accommodation and convergence, being forced to over-accommodate for near and therefore over-converge. Worth found that by the sixth month of life there were very evident signs of a beginning desire for binocular single vision, as shown by rotation of the eye before which a prism was placed and signs of displeasure at the diplopia produced. This fusion sense was fully developed by the sixth year in the average case, so if it was to be trained the attempt must be made before this time.

Squint was divided into two classes—unilateral where one eye was used for fixation and the other kept continually converged, and alternating where each eye was used indifferently. In the former the vision of the eye which was continually converged was very apt to deteriorate from disuse and the suppression of the image formed in it; this loss of vision was much less likely to occur in the alternating variety, since each eye had an opportunity to perform its function at different times. There were three things to be considered in a case of squint: First, the amount of the error of refraction, which should be corrected by proper glasses not later than two years of age, should the squint appear before this, and at once should the squint appear later. Second, the vision of each eye, since, if the squint was unilateral, there was apt to be visual deficiency in the eye which was continually converged. To overcome this and increase the acuity of vision it was necessary to increase the use of this eye, by either completely stopping the use of the eye with better vision with a bandage, or by instilling a cycloplegic and thereby annulling the accommodation and blurring all near objects. A cycloplegic should not be used over an indefinite period to lessen the accommodation and convergence of each eye, as it was very apt to cause a loss of vision in one eye. Third, a deviation of the visual axes, which was the cause of the most distress to the parents of the child, was the most easily managed part of the difficulty, as it could be corrected at operation at any age, but a physiological cure could only be made before the sixth year. At about three years of age some training of the fusion sense should be started with a Worth amblyoscope, and continued until a satisfactory power of fusion was created.

Société de Pédiatrie, Paris.

January the 15th, 1912. (Bulletin No. 1.)

Congenital Labial Hemispasm and Little's Disease.—MM. VARIOT and BONNIOT showed a girl, aged 5 years, born at 7½ months, puny, weighing 3¼ lb. at birth. Weight at present 1 st.; height 2½ ft. Skull microcephalic; intelligence that of a child of six to seven months. There was marked rigidity of the limbs with exaggerated reflexes, Babinski's sign, and well-marked spontaneous "fan sign." When she cried there was labial hemispasm on the left side. This was not merely an extension of Little's rigidity to the muscle of the lip, for the electrical reaction showed a hypo-excitability with tendency to reaction of degeneration.

Congenital Syphilis of the Nervous System.—MM. BARBIER and GASSIER described cases to illustrate the following groups: (1) Epileptic. (2) Acute meningeal. (3) Chronic meningomyelitic with or without osteo-arthropathy of the vertebral column. (4) A form resembling cerebral tumour with ocular lesions. (5) Disseminated sclerosis.

Two Cases of Foreign Bodies in the Œsophagus.—M. ABRAND.—In the first case there was a pigeon bone measuring 2½ cm. by 2 to 3 mm. In the second a triangular bone 2½ cm. by 3 cm. In both cases the symptoms at the onset were very slight, merely a little pain, showing the extreme tolerance of the œsophagus for foreign bodies. A third point was that in spite of the mildness of the symptoms at first, later a very severe and alarming condition supervened.

Experimental Rickets.—MM. MARFAN and FENILLIÉ showed three dogs, aged 3 months, who had been given injections of tuberculin and ovalbumin and presented swelling of the epiphyses and of the ribs.

Intestinal Pseudo-occlusion and Septicæmia due to the Pneumococcus.—M. TRIBOULET and Mlle. DE JONG reported two cases, one a child, aged 4½ months, admitted for wasting. There was nothing to call attention to anything abnormal in the thorax. The abdomen was distended, and there was obstinate constipation unrelieved by enemata. The autopsy showed a latent empyema due to pneumococcus, congestion of the liver and spleen, and no peritonitis. The second case was a healthy boy, aged 11 months, breast-fed, attacked with fever and vomiting. Abdominal distension supervened, with collapse and death. There was a condition of diffuse pneumococcic septicæmia.

Intoxication by Liquid Milk, Tolerance of Dry Milk.—Mme. NAGEOTTE stated that she had seen a certain number of cases in which colic, diarrhœa and vomiting caused by milk had disappeared on using tablets of dried milk.

Mongolian Blue Spots.—M. PORAK had examined the skin microscopically and found the condition due to an accumulation in the derma, to the exclusion of the epidermis, of fusiform cells loaded with granules of black pigment.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Do diseases of dentition exist? (*'Sem. méd.,'* 1911, xxxi, *p.* 469).—**E. Feer,** professor of children's diseases in Zurich, thinks not. During a whole year he closely examined 600 children aged from six months to three years, noting the time of eruption of each tooth on the temperature chart. He never found a fever of dentition, loss of weight, or convulsions. In some cases anorexia, restlessness at night, or peevishness might be noted, but such symptoms are liable to be found in the absence of any teething (*cf.* British Journal of Children's Diseases, 1909, vi, p. 426).

J. D. Rolleston.

The scrotal tongue in children (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 161).—**J. Comby** records fifteen cases of this condition, which bears a vague resemblance to, though it is quite distinct from, leucoplasia. In none of his cases was there any evidence of heredo-syphilis. The lesions are limited to the dorsum, which is segmented by a number of more or less deep grooves running in various directions; the papillæ are hypertrophied; the tongue as a whole is larger than normal, but there is no interference with its functions. The general condition is not affected. The affection is congenital and familial except in Mongolian imbeciles, whose tongue is smooth at birth but acquires a scrotal appearance later. The scrotal tongue is sometimes associated with marginal glossitis or geographical tongue, but the two conditions are quite distinct. J. D. Rolleston.

Riga's disease (*'Thèses de Paris,'* 1910-11, *No.* 132).—**N. Piatnitzky.**—This condition, sometimes known as the sublingual product of Fede, is an affection of early life, and is most frequent between the seventh and fifteenth months, especially at the tenth. It has no predilection for either sex. It is commonest in South Italy. It is usually due to slight but repeated injury inflicted on the tongue by the lower incisors either in coughing or sucking, but trauma is not sufficient to account for all cases, and there is no other satisfactory explanation of the condition. Clinically, it is a small superficially ulcerated tumour, situated on the frænum linguæ, rounded in shape, hard in consistence, and covered by a whitish membrane. Anatomically it is a papilloma. It must be distinguished from the sublingual ulceration occurring in whooping-cough, in which there is no tumour, but merely a loss of substance. Riga's disease may, however, occur in whooping-cough and be associated with the characteristic sublingual ulceration. Though it may occur in the course of severe illnesses it is not a grave disease in itself, as Riga and others wrongly maintained. It is a purely local lesion and does not affect the general health. It shows a spontaneous tendency to heal, but the healing process may be hastened by cauterisation or excision, or by removal of the lower central incisors. The thesis contains the histories of twenty-eight cases in children aged from two months to four years, including five original cases (*cf.* British Journal of Children's Diseases, 1910, vii, *p.* 418). J. D. Rolleston.

Ulcerative stomatitis in children (*'Siglo med.,'* 1911, xviii, *p.* 567).—**Landetevila** regards inattention to the hygiene of the teeth and mouth as

the primary cause in this affection. It never occurs in breast-fed children. The bacteriology varies in different cases; many are due to Vincent's bacillus, which may be associated with other spirilla in the mouth; other cases are due to the pyogenic microbes, and most are polymicrobic. For treatment he prefers to touch the ulcers daily with a solution of equal parts of silver nitrate and carbolic acid; a mouth-wash of sodium borate 3 per cent. should be used frequently and employed likewise as a dentifrice. Latterly he has tried a 1 per cent. acid solution of salvarsan to touch the ulcers; he was led thereto by the action of this drug on the spirilla.

M. D. Eder.

Primary suppurative parotitis in early infancy (*'Arch. f. Kinderheilk.,'* 1911, LV, *p.* 199). —**A. Bretschneider** has collected fifteen cases from literature, including the following two personal cases. (1) Female child, breast fed, suffering from diarrhœa and vomiting. Suppuration of right parotid when nine weeks old, and of left parotid a fortnight later. Death from extension of suppuration to the mediastinum and right pleura. (2) Male child, hand-fed, probably syphilitic. Suppuration of left parotid in fifth week of life. Death from infection of the respiratory passages. In both cases staphylococci were the pyogenic organisms.

J. D. Rolleston.

Cardio-spasm in infants (*'Med. Record,'* 1911, II, *p.* 172).—**W. Geiry Morgan** has only been able to find records of five cases in which the diagnosis of cardio-spasm with dilatation of the œsophagus has been made in infants under two years old. The first was recorded by Méry in 1906. It occurred in an infant, aged 10 months, and was confirmed by radiography. Adams reported the second case in 1908, which came under his notice when the baby was six months of age. At the autopsy a broken-down tuberculous gland was found between two local dilatations of the œsophagus. In 1909 La Fetra described the third case, which was really one of spasmodic stricture of the œsophagus. It was in a patient, aged 16 months, and was confirmed by radiography. Recently Bech has reported the two remaining cases. Dr. Geiry Morgan adds the records of a sixth case, which is that of an infant who was under his care. It suffered from repeated vomiting and had become emaciated. A hard lump had been felt and peristaltic movements seen in the abdomen, and a diagnosis of pyloro-spasm made at first. Attempts to pass a bougie into the stomach failed, but a soft rubber catheter could be slipped past the obstruction. Through this it was fed, the tube being left in entirely at first, and then left out for lengthening intervals until it was abandoned completely. The baby had progressed favourably.

Frederick Langmead.

Aërophagy in a suckling (*'Arch. de méd. des enf.,'* 1911, XIV, *p.* 527). —**J. Comby** noticed this condition in a girl, aged 14 months, following on influenza with rhino-pharyngitis and bronchitis. Two doses of antipyrine 0·10 gr. each removed the trouble.

F. R. B. Atkinson.

The influence of high external temperature of the air on the secretory activity of the stomach (*'Jahrb. f. Kinderheilk.,'* 1911, LXXIV, *p.* 697).—**V. Salle** endeavoured by means of experiments on dogs to find out whether the lowered tolerance of sucklings to the usual mixed food is to be referred to a change of the function of the gastro-intestinal tract, and if so,

what were these changes; to answer this question he considered it of importance to discover whether high external temperature affected the secretory activity of the stomach. As a result of his experiments he finds that in young dogs by increasing the external temperature a form of disease is produced which is characterised by great loss of weight, elevation of temperature, diarrhœa and vomiting. There is also a decrease of the stomach contents, lowering of the digestive power, acidity, and the amount of free HCl, which finally disappears, a form of disease comparable to the summer diarrhœa of sucklings, and he hence considers this disease is related to the action of the elevated temperature on the digestive function of the stomach. He also found that the digestive activity depended on the quantity of water in the body—the less the water the greater the inactivity of the stomach—and recommends large quantities of water in this disease.

F. R. B. Atkinson.

Two cases of hypertrophic pyloric stenosis (*'Jahrb. f. Kinderheilk.,'* 1912, lxxv, *p.* 18).—**T. Tanaka** describes two cases of this disease in boys of 2 months and 10 weeks of age respectively. He describes the measurement of the pyloric orifice and of its various layers, made on post-mortem examination, and also considers the various theories propounded to explain the spasm and hypertrophy without adding anything new. F. R. B. Atkinson.

Pyloric stenosis in older children (*'Amer. Journ. Dis. Child.,'* 1911, ii, *p.* 407).—**E. G. Graham** comes to the following conclusions: (1) Pyloric stenosis is present in children and young adults more commonly than is supposed. (2) The age at which it shows itself depends on the degree of stenosis present. (3) It may be latent for years. (4) The entire disappearance of all the symptoms and subsequent health of the child suggest a probability of an absorption of the hypertrophy. The author describes a case in a boy, aged 6½ years, who died from typical symptoms of pyloric spasm, but no disease of the stomach or intestinal tract was found. Enucleation had had to be performed for an accident and sarcoma ultimately developed. The author considered the case belonged to a group of cases of reflex vomiting associated primarily with disease of the eye, and aggravated by secondary metastasis in the liver. F. R. B. Atkinson.

Visible gastric peristalsis in the suckling (*'Monatsschr. f. Kinderheilk.,'* 1912, x, *p.* 523).—**T. Hoffa** describes five cases of this condition in children not suffering from pyloric stenosis, one in a child, aged 3 months, underfed, two in children suffering from convulsions, and two in children quite healthy, but born of neurotic parents. F. R. B. Atkinson.

Duodenal ulcer (*'New York Med. Journ.,'* 1911, ii, *p.* 572).—**J. P. Crozer Griffith** refers to the very slight notice taken of this condition by the writers of text-books on children's diseases. He quotes, however, several references to it in journal and special literature. Collin alone seems to consider duodenal ulcer comparatively common in childhood, finding in 279 reported cases 42 under ten years of age. Of these, however, 17 occurred during the first year of life, and possibly many of them at the time when *melæna neonatorum* might have been present. Moynihan has quoted from medical literature 16 cases of melæna in the first week of life in which duodenal ulcer was found at the autopsy. Dr. Griffith records two additional cases, the first that of a boy aged 10, and the second that of a boy aged

6 months. The latter was proved by post-mortem examination, and the ulcer was accompanied by acute nephritis, cirrhosis of the liver, and fibrosis of the adrenal bodies. FREDERICK LANGMEAD.

A duodenal tube for infants (*'Med. Record,'* 1911, II, *p.* 805).—**Alfred F. Hess** has constructed a tube with which he has been able to gain access to the duodenum in infants ranging from two to fourteen months of age and weighing as little as 7 lb. It consists of a simple rubber tube to which a perforated leaden ball is attached. It acts by gravity, entering the duodenum within from twenty to thirty minutes. Dr. Hess has exhibited X-ray photographs, showing the tube in the duodenum. Its value, at present, seems to lie, according to Dr. Hess, in the diagnosis of pyloric stenosis, for in such cases it could not be passed. It could also be used in the feeding of infants who suffer from protracted vomiting, when it could be left *in situ* for some days. FREDERICK LANGMEAD.

Acute duodenal indigestion in children (*'Med. Record,'* 1911, II, *p.* 1200).—At a joint meeting of the Philadelphian Pediatric Society and the New England Pediatric Society **F. B. Talbot** read a paper based on twenty-four cases of this disease. The onset might be sudden, with fever, vomiting, pain in the stomach, jaundice, clay-coloured stools, bile in the urine, etc., or insidious without fever, following some indiscretion in diet. It complicated otitis media, diphtheria, and the exanthemata in 15 per cent. of the cases. The onset was sudden in 75 per cent., the liver enlarged in 74 per cent., and tender in 13 per cent.; the spleen was not felt in any case. The stools were white in 36 per cent., creamy in 14 per cent., and clay-coloured in 50 per cent. of the cases during obstruction to bile. The fat of the food was only partly digested. Constipation was present in some cases, in others diarrhœa. Treatment consisted in avoiding fats and sugars, and giving proteins, fat-free milk, and thoroughly cooked simple starches. Tincture of nux vomica should be given. Large doses of bicarbonate of soda were also of value. In the subsequent discussion **A. F. Hess** considered that a study of the ferments in the duodenum was essential, and that this was best carried out by a Nelaton catheter passed into the duodenum.

F. R. B. ATKINSON.

A clinical lecture on cœliac disease (*'London Hosp. Gaz.,'* 1911, XVIII, *p.* 2). **Robert Hutchison** takes the view that "cœliac disease" described by Dr. Gee, "acholia" described by Dr. Cheadle, and "intestinal infantilism" by Prof. Herter, are one and the same complaint. The clinical characteristics are wasting, large, pale and offensive stools, distension of the abdomen, a curious mental attitude, and certain complications such as weakness of the legs with loss of knee-jerks, toxic or essential œdema, tetany and sometimes convulsions. The infantilism he regards as merely the effect of protracted malnutrition. He thinks there is insufficient evidence to support the view that the liver is inactive. The fact that the excess of fat in the stools has usually been split into fatty acid soaps is opposed to the belief that the pancreas is at fault. In some cases, however, much unchanged fat is present; other points in support of pancreatic inadequacy are the inability of these patients to digest starch and the benefit derived in some cases by giving pancreatic ferments by the mouth. He inclines to the view that these cases are essentially cases of chronic intestinal catarrh, but considers it an open question whether the Gram-positive micro-organisms of

Herter are specific or secondary to the state of the intestine. Under treatment he recommends a diet of proteins, gelatin and dextrins, the base of the diet being raw meat, to which raw meat-juice may be added. Avoidance of chill he considers important. Medicinally he recommends opium, combined with a carminative mixture or an astringent containing bismuth or nitrate of silver. When there is much unsplit fat or unaltered starch an active preparation of pancreas, such as pankreon or holadin, is advisable.

FREDERICK LANGMEAD.

Acute hæmorrhagic pancreatitis (*'Tesis de Buenos Aires,'* 1911).—**P. I. Elizalde.**—A girl, aged 14 years, was suddenly seized with severe pain in the epigastrium and vomiting. On admission to hospital on the fifth day of disease the abdominal pain was generalised, but was still most intense in the epigastrium. There was tympanites and no hepatic dulness. Generalised peritonitis from perforative appendicitis was diagnosed, and laparotomy was performed. On opening the abdomen black fluid blood escaped. The appendix was found to be healthy, and there were no signs of intestinal obstruction. Finally, the presence of yellow nodules in the omentum led to the correct diagnosis of hæmorrhagic pancreatitis with fat necrosis. Death took place next morning. At the necropsy the whole of the pancreas except the head was seen to be infiltrated with blood, no glandular tissue being distinguishable. Seventy-two small calculi were found in the gall-bladder. The other organs were practically normal.

J. D. ROLLESTON.

Habitual family icterus in the newly-born (*'Jahrb. f. Kinderheilk.,'* 1912, LXXV, *p.* 358).—**H. Rehn** was called to see a child a few hours old suffering from jaundice. A brother of the child had died two years since from the same complaint on the third day after birth. The former child died on the second day, and post-mortem examination showed hæmorrhages in the mucous membrane of the stomach, uric acid infarcts in both kidneys, and hæmorrhages in the liver and spleen. No cause could be found for the condition.

F. R. B. ATKINSON.

Recurrent jaundice, pyrexia, splenomegaly, anæmia, and pigmentation of the skin in a girl, aged 11 years (*'Practitioner,'* 1911, LXXXVII, *p.* 791).—**L. Guthrie** describes the above case, which showed in addition progressive simple anæmia followed by recovery, hæmorrhages from mucous surfaces, and positive reactions to Von Pirquet's and Wassermann's tests. There were no signs clinically of syphilis, and treatment by mercury or iodide was not adopted. The author does not mention what treatment was employed.

F. R. B. ATKINSON.

Case of hepatic cirrhosis in an infant (*'Riv. di Clin. Pediat.,'* 1911, IX, *p.* 722).—**E. Gagnoni** describes the case of a girl, aged 2½ years, who died of epistaxis and anæmia. The child was suckled by a mother who had evident signs of pleuro-pulmonary tuberculosis. The passage of tubercular toxins by the milk is now admitted, as is also the cirrhogenic action of such toxins as first shown by Prof. Patella in 1901, who attributed cases of pyloric stenosis to this cause.

VINCENT DICKINSON.

Malarial hypertrophic cirrhosis with ascites and no jaundice in a child, aged 8 years (*'Arch. de méd. des. enf.,'* 1911, XIV, *p.* 440).—**A.**

Mezbomian narrates this rare condition. Cirrhosis is very rare in children, and there are few cases recorded which are not due to syphilis. He gives a short *resumé* of the literature. In the author's case death occurred. The spleen reached nearly to the iliac crests. Twelve litres of fluid were removed from the abdomen. F. R. B. Atkinson.

Acute yellow atrophy of the liver in children (*'Amer. Journ. Med. Sci.,'* 1912, i, *p.* 177).—**John Phillips** records a case of the above in a female child, aged 5 years. On admission to hospital she suffered from intense jaundice associated with stupor. The history was rather indefinite One week before admission she began to lose her appetite, and vomited several times a day, the last time she vomited being two days before coming to the hospital. During this time the child became more deeply jaundiced, the stools were clay-coloured and the urine a deep yellow colour. No blood had been seen in the vomited matter or in the stools. During the last twenty-four hours she had been unconscious. On admission the following were among the chief points noted: deeply jaundiced condition of the skin and mucous membranes, numerous small petechiæ over the lower extremities below the knees, unconsciousness, temperature *per rectum* 96·2° F. The lower edge of the liver was not palpable; the upper border of hepatic dulness began at the fourth rib in the right mammary line, and at the sixth rib in the axillary line. Urine contained much bile, and in sediment there were found epithelial and hyaline casts and leucin crystals. Leucocyte count 22,400. Child died a few hours after admission, and the autopsy showed acute yellow atrophy of the liver, cloudy swelling of the heart, kidney, pancreas and adrenals, stenosis of the cystic duct, thyroid hyperplasia and wide-spread petechial hæmorrhages. The author discusses various points in connection with this disease and gives a list of recorded cases affecting children.

J. Allan.

Congenital stenosis of the ileum apparently of syphilitic origin (*'Arch. of Pediat.,'* 1911, xxviii, *p.* 689).—**F. van der Bogert.**—A baby, aged 2 months, whose mother had had several miscarriages, was admitted to hospital for constipation. The abdomen was markedly distended, the abdominal wall thin, and coils of intestine visible. Fæcal vomiting was present. Evacuation of the bowels was obtained by high enemata, but the distension persisted and death took place. Necropsy: Stenosis of ileum 23 in. above ileo-cæcal valve. Bowel above stricture markedly dilated, with decided increase of muscular tissue for more than 2 in. above the obstruction. Microscopically, the submucosa and muscular layers were found to be greatly thickened and infiltrated with round-cells. The mucosa was ulcerated away, leaving a base covered with fibrin, necrotic cells, and leucocytes. J. D. Rolleston.

Chronic intussusception mistaken for dysentery (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 47).—**J. Comby** describes a case of a girl, aged 4 years, in whom all the symptoms pointed to dysentery and for which disease she was treated. On autopsy intussusception of the colon was found. The temperature chart showed two phases—an initial one lasting three weeks without fever, and a terminal one of eight days, with an elevated temperature caused by peritonitis. F. R. B. Atkinson.

Hirschsprung's disease in a boy, aged 7 years (*'Arch. of Pediat.,'* 1912, xxix, *p.* 60).—**S. Welt-Kakels.**—A few days after birth the abdomen appeared to be large, and the bowels moved only once in two or three days. The condition grew worse, and on one occasion constipation lasted for thirteen days. At the age of four he came under the care of the authoress for six months, but she did not see him after that until he was seven years of age, when the skiagram, taken in the prone position, showed an intestinal sac of enormous dimensions. The after-history of the case is not described.

F. R. B. Atkinson.

Chylous ascites and chylocele in sucklings (*'Arch. of Pediat.,'* 1911, xxviii, *p.* 595).—**D. M. Cowie.**—Since 1691 only nine cases, including the present, have been recorded. Cowie's case occurred in a male infant, in whom the abdomen was remarkably large at birth and gradually increased in size. When seven weeks old the measurement round the navel was 22 in. The scrotum was tense, and was $9\frac{1}{2}$ in. in circumference. The X rays showed a normal colon, and the absence of tumours in the thorax or abdomen. The face, neck, and ears, and occasionally the lower extremities, were cyanotic. The right heart was enlarged. Between May 27 and September 17, 1909, 2340 c.c. of milky fluid were withdrawn from the abdomen and scrotum, the same fat content—7·2 per cent.—being found in the fluid from both sources. In April, 1911, nineteen months since the last tapping, the child was over two years old and perfectly well. Cowie attributes the ascites in his case to pressure of the right heart retarding the flow of chyle into the subclavian vein, and the consequent rupture of a chyle vessel below the diaphragm.

J. D. Rolleston.

Acute poliomyelitis in Iowa (*'Interstate Med. Journ.,'* 1912, xix, *p.* 35).—**W. L. Bierring.**—The first instance of an epidemic here occurred in 1908 and again in 1910. A map shows a widespread and general distribution with a tendency to focal occurrence, and radiation from these foci along lines of railway. The regions most affected in 1910 were hardly affected in 1911. The disease appeared to be infectious and transmissible, but it is usually difficult to trace the connection with other cases. Out of 654 cases, 95 were aged fifteen years and over, and 24 of these were over twenty-five years old. The sexes were equally divided. In 1910 there were 157 deaths in 654 cases—an unusually large mortality. Food and dust seem not to be causal factors. In one case in the country many chickens had developed paralysis, and a hog which ate the heads of some of these chickens developed atypical paralysis of both hind legs. In another set of five cases, in two cases chickens belonging to the family had been affected, in one kittens, and pigs in another. In an examination of one paralysed chicken a softened area, one inch long, was found in the spinal cord, and histologically numerous small hæmorrhages in the anterior cornua with collections of cells in the perivascular lymph-spaces, etc., in the anterior horns—in fact a typical picture of poliomyelitis as seen in the human being. Examinations and cultures for micro-organisms were negative. Many different types occurred, viz.: (1) The ordinary spinal form; (2) progressive form, usually ascending; (3) bulbar variety; (4) a rare acute encephalitic type; (5) cerebellar form; (6) a polyneuritic form with marked pain and tenderness in the extremities, no loss of sensation, and post mortem no signs of peripheral neuritis; (7) meningitis type very like cerebro-spinal fever; (8) abortive types with only slight motor symptoms, nausea and vomiting, pains in back or limbs, hyper-

æsthesia, etc. The period of incubation seems to vary from three to fifteen days.

J. Porter Parkinson.

Epidemic poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1911, lvii, *p.* 1275).—The report of the committee on the methods for the control of epidemic poliomyelitis is here published. They state that the transmission of the disease from man to monkey and from monkey to monkey has been now demonstrated, but the virus, although capable of being cultivated on artificial media, has not been identified. In man the virus has been found in the spinal cord and bulb (and possibly in the spleen, blood and cerebro-spinal fluid), while in monkeys it has been present in the brain, spinal cord, mesenteric, axillary and salivary glands and in the nasal and pharyngeal mucous membrane, where it has been found to persist for as long as five months after the acute stage of the infection. The virus is easily destroyed by heat (45°–50° C.) and by comparatively weak disinfectants; it is resistant to low temperatures, desiccation and the action of glycerine. For the present it may be concluded that few clinically recognised cases can be traced to contact with previous clinically recognised cases. If the disease is transmitted by direct contact, paralytic cases must be a small factor in its dissemination; on the other hand abortive cases and carriers may play an important part. The digestive tract as the avenue of infection is suggested by the seasonal prevalence, the greater incidence in childhood, and the almost constant occurrence of gastro-intestinal symptoms in the acute stage. Is it possible that the disease may be communicated to man from the lower animals or by means of some insect, possibly the flea. Pending the results of further investigations the committee recommend that all patients known to have, or suspected of having, the disease should be isolated for a period of three weeks; that all discharges from patients and all articles used by them and their attendants should be disinfected; that fumigation of the premises with formaldehyde should afterwards be carried out, that other members of the family should be excluded from schools during the period of the patient's isolation and during the possible incubation period of a new case, *i. e.* for three weeks following the last exposure to a (presumptively) contagious person; and that as a prophylactic measure hexamethylenamin should be administered daily to persons exposed to infection.

T. R. Whipham.

The butyro-reaction of Noguchi-Moore in acute anterior poliomyelitis (*'Arch. de méd. des enf.,'* 1911, xiv, *p.* 842). **M. Leitao** finds that the reaction of globulin to butyric acid is strongly positive in the pre-paralytic stage of this disease, and remains so for the first two months of the paralysis; up to six months it is feebly positive and inconstant, and becomes negative at the seventh month. Only tubercular meningitis give a similar result, and this is differentiated from Heine-Medin's disease by the presence of lymphocytosis in the former complaint.

F. R. B. Atkinson.

How is acute epidemic poliomyelitis transmitted, and how can the contagion be arrested? (*'Paris Méd.,'* 1910-11, ii, *p.* 221).—**C. Levaditi** finds the pathogenic agent in the nasal mucous membrane, but not in the secretion. The virus penetrates into the organism by means of the respiratory and digestive tract. To avoid contagion the patients should be isolated and a local application of permanganate of potash or oxygenated water made.

F. R. B. Atkinson.

Experimental poliomyelitis ; preliminary communication (*'New York Med. Journ.,'* 1911, II, *p.* 613).—**M. Neustaedter** and **W. C. Thro** report that they have succeeded in producing poliomyelitis in monkeys by a new method. By a consideration of clinical points in the epidemic form of the disease they were led to suspect that the virus lay active in the dust of infected rooms, and gained entry into the system through the naso-pharynx. They obtained the sweepings of a room which a child, paralysed for two weeks, inhabited. These they made into a solution, filtered through a Berkefeld filter No. 2, and afterwards proved to be sterile on blood-agar. This extract was injected into the lateral ventricle of a monkey which seven days later developed general constitutional symptoms which were transient and a persistent wrist-drop. From the sweepings of another case they produced paralysis in a second monkey by intra-spinal injection. This animal was killed, and the microscopical examination of the cord showed changes similar to those seen in acute poliomyelitis. Further, an emulsion of this cord produced paralysis in a monkey. REGINALD MILLER.

Experimental poliomyelitis produced in monkeys from the dust of the sick-room; further report (*'New York Med. Journ.,'* 1911, II, *p.* 813). —**M. Neustaedter** and **W. C. Shea** collected dust from a room in which cases of this disease occurred and produced the same disease in monkeys, and as a result of their experiments came to the conclusion that the disease was propagated by dust, the naso-pharynx was probably the point of entry, and that the disease was both infectious and contagious.

F. R. B. ATKINSON.

Lumbar puncture in acute poliomyelo-encephalitis (*'Arch. of Pediat.,'* 1911, XXVIII, *p.* 164).—**J. L. Morse.**—During the acute stage, before the appearance of paralysis, the cerebro-spinal fluid is clear, and not infrequently under somewhat increased pressure ; it often shows a fibrin clot, which may persist for two or three weeks or perhaps longer ; it always contains an excess of cells, chiefly of the mononuclear type, many of them being lymphocytes. These changes are identical with those in tuberculous meningitis, the disease with which acute poliomyelo-encephalitis is most likely to be confounded, but help to distinguish it from epidemic cerebro-spinal meningitis and other forms of meningitis. J. D. ROLLESTON.

Surgery.

A case of macroglossia (*'Cleveland Med. Journ.,'* 1911, X, *p.* 743).—**J. H. Comroe** records a case in a girl, aged 3 years, the ninth child of healthy parents. Immediately after birth the tongue was found to be very large but normal otherwise. During dentition it became very much thicker, and small papillæ appeared on its anterior part. At the end of the first year the tongue and papillæ became rapidly and progressively larger and assumed a bluish colour. A year later the tongue became sore and hæmorrhages frequently occurred. At the time of operation the swollen and cyanotic lips were pushed forward by a much thickened and excoriated mass representing the anterior part of the tongue, profusely studded with papillæ, some of which were pustular. The posterior part was normal. A V-shaped portion was removed, and four months after the operation the tongue was found to be normal in every respect. Microscopically the growth was a lymphangioma. J. D. ROLLESTON.

Prolapse of the parotid (*'Zentrabl. f. Kinderheilk.,'* 1910, xv, *p.* 498).—**R. Matrossowitsch** records a case unique in literature. A boy, aged 4 years, cut his cheek with a sharp knife. The wound extended from the left corner of the mouth to the last molar tooth, involved the muscles of mastication, and caused a prolapse of the parotid. As the gland could not be replaced it was extirpated. The wound was sewn up and healed *per primam.*

J. D. Rolleston.

Congenital stenosis of the pylorus (*'Western Med. Rev.,'* 1911, xvi, *p.* 410).—**S. Haslam** operated successfully on a child, aged 1 month, for stenosis of the pylorus by means of divulsion. He considered this method would cause less shock than a gastro-enterostomy. The œsophagus was markedly dilated. This is the first successful case in Nebraska.

F. R. B. Atkinson.

Treatment of pyloric stenosis in early infancy (*'Semana Medica,'* 1910, xvii, *p.* 1321).—**M. H. Vegas** relates a case in a breast-fed male child, aged 2 months. Vomiting had occurred every hour for eight days. Treatment by diet proved unavailing, and operation was resorted to nine days after the appearance of the symptoms. The result was quite successful, and breast-feeding was resumed five days after the operation. This is the ninth recorded case in the Argentine Republic, and the only case successfully treated by operation. The eight former cases were treated medically, but the results are not given.

M. D. Eder.

Rupture of the common bile-duct (*'Austr. Med. Gaz.,'* 1912, xxxi, *p.* 54).—**O. F. Paget** describes the case of a child, aged 7 years, run over by a sulky. Operation revealed rupture of the common duct, which allowed no bile to enter the intestine, but let it accumulate in the peritoneal cavity, producing intense emaciation and jaundice. All other symptoms were secondary to pressure. The temperature was normal, but reached 103° F. after paracentesis and then returned to normal. After the first operation, consisting of draining away the bile from the abdominal cavity, the temperature ranged between 102° and normal. There was no hæmorrhage and no ligature of vessels at the first or at the second operation, when the gall-bladder was found adherent to the posterior surface of the liver and was sutured to the colon and a drainage-tube inserted. The patient was pulseless and barely alive. Hypodermic injections of pituitary gland were given for weeks. Five days after the second operation there was no bile in the motions, and the bile discharging through the operation wound was septic, and the temperature 101°. The tube was removed, and thus resistance at the skin opening and at the region of the tear in the duct was increased. The course was a hazardous one, but the result justified the means, bile appearing on the twelfth day, and the patient recovered.

F. R. B. Atkinson.

Appendicitis in childhood (*'Gazz. med. ital.,'* 1911, lxii, *p.* 355).—**H. Salzer** says that the peculiarities of appendicitis in children are based on special anatomical conditions; in children the appendix is relatively larger than in the adult—one tenth of the length of the large intestine instead of one twentieth in the latter. The opening from the cæcum into the appendix is funnel-shaped, the aperture relatively large, while in the adult the appendix is sharply distinct from the cæcum and its lumen separated from the rest of

the intestine by a kind of valve. Another important fact is the abundance of lymphatic follicles. The appendix of the newborn is entirely without any adenoid tissue; in the first year of life follicles appear in the walls of the appendix, and become in a short time so numerous that it might be compared to the tonsil; towards the thirtieth year they begin to atrophy. Appendicitis is very rare in the newborn; inflammatory conditions are more numerous in the period when the follicles are most developed. The author thinks, however, that none of these anatomical facts explain the gravity of appendicitis in childhood, nor does the asserted greater difficulty of diagnosis. In the child the condition of the abdominal walls and the facility of rectal examination allow a more complete objective examination, while in the adult the differential diagnosis between biliary or renal calculus, pyelitis and ovaritis has to be considered. A very important symptom in children up to the age of five years is that the right leg is kept flexed on the pelvis. The appendix in children being very low in the pelvis, irritation of the posterior peritoneal folds and sheath of the psoas are relatively easily produced. The greatest difficulties are those of differential diagnosis of central pneumonia and other gastro-intestinal conditions. The examination of appendices removed from children shows, as in the adult, all stages of the disease from simple inflammation to complete gangrene, purulent and pseudo-membranous forms. The author draws attention to another important fact. Out of 163 cases operated on by him, in 103 he was able to show that they were not operated on during or after the first attack, but after a series of attacks. In 106 he found cicatrices in the appendix or other remains of former morbid processes. The gravity of the disease is not to be attributed, as many authors state, to the rapidity of its course in children, but to the fact that they have already had other attacks. The author, however, asserts that children are, as a rule, in a less favourable condition than adults for treatment, and to this the greater seriousness of the disease and smaller percentage of recoveries must be attributed. The surgeon sees the case when there are already grave symptoms of peritoneal infection. Slight attacks of appendicitis pass unobserved or are mistaken for common disorders of digestion, and it is these chronic or slight forms which should be cured in order to avoid serious attacks involving the peritoneum. Chronic appendicitis is variable in its aspects; for the most part the children are pale, with poor appetite, diarrhœa, and later on, vomiting. Periodic vomiting should always call attention to the appendix. There may be colic, especially after food, appearing suddenly and disappearing as rapidly; pain radiating to the right leg; morbid temper, and frequent headache. Operation effectually removes all this. The diagnosis is sometimes very difficult, and the author draws attention to an interesting point. A fine crepitation is felt under the palpating fingers, very similar to that felt in cutaneous emphysema. When elicited several times in succession it disappears, to reappear after a short time. In no case in which the author found this symptom did he fail to see some lesion of the appendix at the operation. The conclusion arrived at is that the greater mortality of children from appendicitis is not due to special anatomical conditions or greater diagnostic difficulties, nor to the fact that in childhood the disease assumes a generally progressive character, but rather because surgical treatment is undertaken too late.

VINCENT DICKINSON.

Appendicitis and twisted ovarian cyst with hæmorrhage (*'Austral. Med. Gaz.,'* 1911, xxx, *p.* 389).—**Burfitt** narrates the case of a

child, aged 10 years, in whom on operation the above conditions were found. Extensive hæmorrhage had occurred into the cyst and burst into the pelvic cavity. The result of the operation is not mentioned.

F. R. B. Atkinson.

Acute diffuse gonorrhœal peritonitis (*'Amer. Journ. Derm.,'* 1911, xv, *p.* 511).—**C. Goodman** records three cases, one of which occurred in a girl, aged 7½ years. On admission to hospital she showed signs of general peritonitis and a purulent vaginal discharge, which had first been noted a week previously, containing gonococci. At the laparotomy several collections of purulent fluid, from which pure cultures of gonococci were obtained, were found between the intestines, as well as a large abscess in the pelvis. Recovery took place. Acute diffuse gonorrhœal peritonitis is commoner in children than in adults, and is particularly fatal in childhood, probably because the lymphatics yield more readily to infection. There is less tendency in children to the formation of adhesions, and the tissues are more succulent and show less resistance to bacterial invasion.

J. D. Rolleston.

Enterectomy in an infant twenty-four hours old (*'Lancet,'* 1912, i, *p.* 427).—**G. E. Waugh** records this interesting case. The infant had persistent vomiting since birth and no flatus or fæces had passed *per rectum*. At the umbilicus there was a tumour about as large as the infant's head, and within the sac coils of small intestine could easily be seen. It was found necessary to resect a portion of the gut and then do lateral anastomosis. There was a good recovery, but unfortunately the infant died a month later from marasmus. No post-mortem examination was allowed. The chief points of interest were: (1) the rarity of the condition—congenital hernia of the cord—which was responsible for the acute intestinal obstruction. (2) No case of successful resection of intestine with lateral anastomosis for acute obstruction has yet been recorded in a child of this age. (3) The use of spinal anæsthesia.

J. Allan.

Spastic ileus in a child, aged 2 years (*'Zentralbl. für Kinderheilk.,'* 1911, xvi, *p.* 127).—**O. Nordmann** finds that spastic contraction of the bowel can be caused by (1) a nervous affection (neurasthenia or hysteria); (2) foreign bodies in the bowel (gall-stones, oxyuris); (3) ulcers in the mucous membrane of the bowel; (4) disturbances in the nervous mechanism of the bowel. He described three cases of spastic ileus in 1910, and now narrates another in a girl, aged 2 years. The child recovered after an operation, which consisted in opening the abdomen and pressing the gas in the distended loop into the contracted part of the bowel.

F. R. B. Atkinson.

Paralytic intestinal obstruction in a newborn child (*'Progrès Méd.,'* 1911, 3 *sér.*, xxvii, *p.* 483).—**H. Reynès** describes the case of a boy, apparently normal, weighing 3½ kilos., born of a biparous, non-syphilitic mother, aged 28 years. Vomiting, which began the day after birth, became more copious and green in colour and the evacuation of meconium ceased. There was no malformation of anus or rectum; the latter allowed the passage of a catheter. The third day after birth there was complete intestinal obstruction and abdominal distension. Micturition was normal, and the general condition was becoming rapidly worse. Laparotomy showed the small intestines enor-

mously distended, filled with meconium and secretion. The large intestine presented a remarkable condition. The cæcum, ascending colon and first half of the transverse colon were distended and ecchymosed. The second half of the transverse descending colon, the sigmoid flexure and rectum were small, contracted and empty. The walls of the transverse colon presented a marked difference of appearance and colour, the distended part being purple and the undistended part pinky-yellow. The cause of the obstruction could not be found. An artificial anus was made, but the child died four hours later. The autopsy disclosed nothing further with regard to the cause of the obstruction, there was no malformation, nor any morbid condition either around or in the intestine. The upper parts of the digestive canal were normal. The case could not be explained on the supposition of a simple megacolon. The author's opinion was that there existed an initial neurotrophic malformation: the nervous plexuses of the intestine being malformed or absent, a paralytic condition was produced, stopping all intestinal movement and favouring dilatation. Some unexplained cause localised the condition to the small intestine and half the colon, producing an enormous paralytic ileus. Blochmann described a case of functional intestinal obstruction in the '*Berlin. klin. Wochens.*,' 1911, XLVIII, *p.* 564.

VINCENT DICKINSON.

Retrograde enteric intussusception (*'Clin. Journ.*,' 1912, XXXIX, *p.* 350).—**L. A. Dunn** operated on a boy, aged 2 years, who lived forty-eight hours after the operation. The intussusception was about six inches long and gangrenous. Post-mortem examination showed that the intussusception removed at the operation was travelling upwards along the small intestine away from the cæcum, *i. e.* in a retrograde manner.

F. R. B. ATKINSON.

A rare form of intussusception (*'Austral. Med. Gaz.*,' 1911, I, *p.* 203).—**C. Joyce** describes the above case, which occurred in a boy, aged 2 years and 8 months. On operation the entering bowel was found to consist of both large and small intestine. The intussusception had been formed "not so much by the lower section 'swallowing' the upper portion of the bowel as by the lower segment constantly turning in at the neck of the intussusception" The splenic flexure of the colon was congested, and there were two creases on the inner angle of the flexure where the bowel had been turned inwards, forming a pouch into which a coil of the small intestine had pushed, and the whole had been grasped by a ring of the bowel just below and drawn in. The operation was successful. F. R. B. ATKINSON.

Fourteen consecutive successful laparotomies for acute intussusception in infants (*'Clin. Journ.*,' 1911, XXXVIII, *p.* 232).—**E. W. Roughton** briefly describes these cases in children ranging from four months to one year; ten of the children were males. In thirteen of the cases the invagination involved the region of the ileo-cæcal valve. He considers laparotomy is the only treatment—a view concurred in by most of the speakers in the discussion which ensued. F. R. B. ATKINSON.

Hæmorrhoids in a child aged 2½ years (*'Bull. Soc. Sci. Méd. de Bucarest*,' 1909–10, *p.* 169).—**C. Poënaro-Caplesco.**—Nothing was seen on external examination of the anus, but after defæcation a tumour

appeared, of the size of an olive, and presented the typical appearance of hæmorrhoids. Whitehead's operation was performed. The child remained constipated for six days. On the seventh a purgative was given. Rapid recovery resulted.

J. D. Rolleston.

Prolapse of the rectum in children (*'Med. Rev. of Rev.,'* 1911, xvii, *p.* 396).—**M. L. Bodkin** thinks that consideration of the general health is of prime importance in the treatment. Rectal prolapse is an index of low vital condition, except when there is a definite indication of traumatism. Operation then is only of temporary benefit. Chronic diarrhœa, phimosis, constipation, and irritation from within are common causes. Reduction should be made by digital pressure, the buttocks being afterwards strapped together. Defæcation should be only permitted when lying on the side. In incomplete prolapse linear scarification with nitric acid or the actual cautery is recommended.

J. Porter Parkinson.

Hernia in children (*'Practitioner,'* 1911, lxxxvii, *p.* 299).—**Douglas Drew** considers the variations in form and structure of the sac, and the variations in its contents. The former is divided into the funicular and the congenital; occasionally the obliteration between the funicular process and the tunica vaginalis is incomplete and marked by a fibrous ring, which in rare cases has left a small opening into the abdomen. Irregularly sacculated and hour-glass sacs have also been met with. The author has seen tuberculous peritonitis of a hernial sac on several occasions. The structures most often found in the sac are the lower part of the ileum and the omentum. The cæcum and sigmoid may be present. The Fallopian tube and ovary and undescended testicle are not uncommon. Spontaneous suppuration in a hydrocele of the cord was met with once.

F. R. B. Atkinson.

The disinfective power of iodine (*'Sei-I-Kwai Med. Journ.,'* 1911, xxx, *p.* 55).—**Y. Takaki**, Professor of Surgery at the Tokyo Charity Hospital Medical College, as the result of experiments with various micro-organisms (*Staphylococcus aureus, Streptococcus pyogenes, pneumococcus* and *B. coli*) found that the skin could be disinfected with a 2 per cent. alcoholic solution of iodine in one hour, and with a 5 per cent. solution in fifteen minutes. In ordinary cases he now adopts the following method: (1) The skin is cleaned with soap and water the night before the operation. (2) The next day, two to three hours before the operation, the skin is painted with a 2 per cent. solution. (3) Again, just before the operation in the theatre. In emergency cases he wipes the skin clean with dry gauze, applies 5 per cent. solution at once, and in fifteen minutes proceeds with the operation. He mentions a successful case where he used his method in a boy, aged 10 months, admitted for strangulated inguinal hernia. Attention is drawn to the following points: (1) The iodine must be dissolved in rectified hot methylated spirit. (2) The skin must be dry, as moisture weakens the strength of the iodine. (3) The superficial hæmorrhage is greater than normal, as iodine increases the vascularity of the skin and subcutaneous tissue. (4) The skin is hardened, and in consequence the knife often becomes quickly blunt. The stain caused by the iodine can be quickly removed by soaking in 2 to 4 per cent. carbolic acid.

J. D. Rolleston.

Reviews.

A Manual of the Diseases of Infants and Children. By John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third edition, 1911. Illustrated, pp. 534. Philadelphia and London: W. B. Saunders Co. Price $2.00 net.

The scope of this volume places it in a rather different category from most books on the same subject. In the preface to the first edition the author states the aim of his work: "This little book has been prepared for the medical student, not to supplant the larger and necessary text-book, but to enable the student to grasp quickly the more important parts of the subject of pædiatrics, and to furnish him with a rapid reference-book for clinical use. It is hoped that the volume is not too condensed to be of service to the busy practitioner."

The issue of a third edition and a perusal of the book show that Dr. Ruhräh has been very successful in carrying out the task he has set himself. The arrangement throughout the volume is very clear and calculated to facilitate rapid reference. The descriptions of the various subjects dealt with are short, but very much to the point, while the range of subjects is large. The illustrations, which are very plentiful, are for the most part excellent.

The limitations of the book are the limitations of the type of volume the author has elected to supply, and on the whole he has risen above them successfully. In some instances, however, the matter has been so abridged as to have been robbed of much practical value. R. M.

Medical Gymnastics and Massage for the Treatment of Disease, Deformity and Injury. By F. F. Middleweek, L.R.C.P., L.R.C.S. Edin. Pp. 33. London: John Bale, Sons & Danielsson, Ltd., 1912.

This is a short work, with an introduction by Dr. Arvedson, of Stockholm, describing various gymnastic methods practised after the Swedish system. The book, being nothing but a description of these methods, does not make very interesting reading, and here and there a few explanations seem necessary: *e. g.* the "surgeon makes a firm trembling pressure down the sides of the chest"; "double-sided movements give the best results in tabes." We cannot think that massage through the rectum for paresis, enuresis, and enlarged prostate will ever have much vogue, at any rate in England. The book is unpretentious, and is good as far as it goes.

F. R. B. A.